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AN ADDRESS DELIVERED BEFORE THE MASSACHUSETTS AGRICULTURAL SOCIETY AT THE BRIGHTON CATTLE SHOW, 17th Oct. 1821. By HENRY COLMAN.

GENTLEMEN OF THE AGRICULTURAL SOCIETY,

AND FELLOW CITIZENS,

I SHOULD have been glad, on this occasion, to have confined myself to the discussion of some single topic, connected with agriculture or domestic economy; but the time allowed me to prepare for this duty, has been much too short to do this in a manner satisfactory to you or myself. I must therefore be permitted to take a wider range; and here I beg leave, with all possible respect, to suggest to the Trustees of this Institution, that in general, and with the exception of those few distinguished cultivators, whom I have the honour to succeed in this duty, if they demand a crop that is worth harvesting, they should give us an opportunity to prepare the ground and sow the seed at least as early as the preceding spring; but where every thing is to be done by forcing, they must be satisfied with that, which, through their great clemency, may answer for the occasion, but, as we are accustomed to say, 'will not answer to keep.' All I can do is to ask you to go with me into an old field, which we have often traversed, and determine what is best to be done with it; what parts it is expedient at once to break up; and by what means we may redeem it from its

present sterility; what enemies we have to contend with, more injurious to the farmers prosperity than the Canada thistle; and in fine, how we can render that, which is often offensive by its desolation, as beautiful and productive as God designed it should be.

I begin then by inquiring, What is essential to a farmer's prosperity? We will stop a moment to determine, what we mean by a farmer's prosperity. I do not intend therefore merely his getting rich. Under certain restrictions, the acquisition of wealth is as much a duty as any thing else. It is a most important moral obligation, to provide by honest means for those, whom God has cast upon our care, and to increase our means of doing good in the community; to these ends property is essential, and may be successfully applied. But where a man has no other object of pursuit than to be rich, and avarice becomes his ruling passion, he will not be happy, and is most likely to become dishonest. That farmer is prosperous, who is able by his own personal labour, and the produce of his husbandry, to provide for the ordinary wants of himself and his family; to give his children a suitable education and establishment, in that situation in life, in which they are likely to be placed; to keep himself free from the curse of debt and mortgage; to maintain the character and assert the rights of an independent freeholder; to contribute something every year to the improvement of his estate, and to that fund in reserve, which every prudent man ought, as far as possible, to provide against a season, when the accidents of life or the infirmities of old age may render it necessary to repose from his labours and cares. This is all the prosperity which a reasonable farmer ought to expect or wish; and further than this, the acquisition of property and the exemption from constant care and hard labour are not to be desired. The condition of the man, whose situation I have now described, is favoured and enviable. It is a common complaint among farmers, who, Wesley says, I think unjustly, are more apt to

complain than any other class of men, that agriculture is an unprofitable business; and there is no doubt that the value of the produce of our labour is not proportioned to the price of that labour; an evil which, as our population increases, will rectify itself. But even in the present condition of things among us, if agriculture will not make us rich, it will be found, where it is properly managed, the source of as much prosperity as reasonable men ought to desire. I have myself known so many instances of such successful husbandry, in parts of the country remote from market, and where the soil is extremely rough and unpromising; instances in which, men, who began life with no other property than the frock on their backs, and the spade in their hands, have brought up and well educated numerous families, and acquired not only a competency but an independency, that there can remain no doubt on the subject. Let us inquire then what are the means most likely to ensure success to the farmer? Next, what circumstances are most likely to defeat his success? I will endeavour to be as brief as possible, because a long talk in the morning is a violation of one of the most important rules of domestic economy. However, we have it from high authority, there is a time to speak as well as a time to keep silence.

The way to wealth, says Dr. Franklin, is as plain as the way to market. The whole science of getting rich is comprehended in two words, industry and frugality. These indeed are the farmers best friends; and with these, under the blessing of providence, he may command success. This is no new discovery. The farmer with us must labour; in our climate the earth gives us nothing without cultivation. This is not an evil, but a blessing. The health is preserved, the powers of the body and mind are strengthened, our capacity for enjoyment is increased by labour; and constant useful and honest engagement is an unfailing source of satisfaction and pleasure. The most important inquiry to the farmer is, how he may best apply

this labour? An obvious defect in our system of husbandry, which has been often adverted to, but of which we cannot be too often reminded until there ceases to be any occasion for the remark, is the large size of our farms, compared with the amount of labour, which we are able to bestow upon them. We apply little labour to a great deal of land; the rule ought to be reversed; and we should apply much labour to little land. The same labour and manure, which is commonly spent upon two acres, if applied to one acre of ground, would often give double the crop and leave the land in better condition. A farmer should not therefore be so solicitous to enlarge his farm, as he should be to cultivate what he has, to as high degree as it is capable of being cultivated with advantage; this should form the limits of his desires. His farm should be proportioned to the quantity of labour which he can give to it; and until he has discovered that more labour would be actually injurious or useless, he need not desire the extension of his territories. But suppose, you say, that his farm is already according to this rule much too large; what shall he do with it? I answer, if he cannot or will not sell it, it would be better to let a part of it lie waste; or if his pride is too much concerned to do this, let him plant it with acorns, or walnuts, or chesnuts, or beachnuts, or locusts, a branch of agriculture, if so it may be called, to which little attention has been paid among us; and which would in many cases be an appropriation of a part of our land, highly productive to those who are to come after us. An early attention to this subject is strongly urged by common prudence, when we take into view the serious want of timber and fuel to which we must presently be subjected, if this provision is longer delayed; unless we choose to be governed by the *benevolent* principle which some man is said to have avowed, 'who would do nothing for posterity because posterity had done nothing for him.'

The next subject of importance to the farmer is manure. The turning up and breaking the soil thoroughly, the reducing it into fine parts and keeping it light and loose, the exposure of it to the sun, and air, and frost, and dew, are all of the first importance; but tillage will not do every thing. Manure is essential to the growth of vegetables as supplying a considerable proportion of their nourishment; and as exciting their powers to receive, and the powers of the earth on its part to supply, this nourishment. It is a prominent defect in our agriculture, that our lands are not enough manured. We have not sufficient manure; and what we have, we spread over too great a surface. The remedy for the last error is obviously within our power; we must cultivate no more land than what we can manure well; and, by well, I mean, not as much, in the cant phrase, *as will do*, but as much as the land will bear. We may apply more than is necessary; but there is no occasion to give our farmers a caution on this head. We may apply it improperly, at an improper season, in an unfit state, to a crop and soil to which the kind of manure, which we apply, is not adapted. These matters must be determined by inquiry and experiment, of which we ought to avail ourselves. But the great evil is a want of manure; and this want might on almost every farm be supplied by means within the farmer's own power. On the greater part of the farms in the country, with the exception of those in the immediate neighbourhood of our large towns, where the subject is better understood, it is not extravagant to say, that not a third part of the manure is made, which might be made. Very few of them have any thing like a compost heap; the night soil is not used; the drainings of the sink are suffered to waste themselves on the ground in a manner highly offensive to the sight and smell, and are considered of no farther value than as supplying a spot for the growth of a few cucumbers; in but few instances is any pains taken for the preservation of the stale of the cattle; the place of deposit

for the manure is seldom covered, and it is often so situated, as that the greater part is wasted by its exposure to the sun and rain; in many places the farmer suffers his swine to range at large in the highways; and the tops of his potatoes and other vegetables are wasted on the place where they grew; and the scrapings of decayed leaves and chips, and the deposits of pond holes and ditches are deemed not worth the gathering. In all these particulars and many others, which it would be easy to enumerate, the farmer is obviously neglecting and wasting his most valuable resources.

Next to labour and manure, frugality in living is essential to a farmer's success. It is not necessary that on this subject I should be particular; but there are many things in our habits and manners, which might be amended. There are few of our farmers, who, if they will look into the account of their family expenses, and every prudent man will keep an exact account, will not discover, that foreign luxuries constitute a very considerable item of expenditure; and it would seem a most important rule for every farmer, to live as far as possible within his own resources; to depend upon the produce of his farm for the subsistence of his family, as far as it can be applied to this purpose. A good farm, if discreetly managed, will supply almost every thing that is necessary in this respect; and the produce of a farm, thus used, is of more value to the farmer than to send it to market. There is one topick connected with this subject on which we cannot be too often admonished, that is, our extravagance in the use of fuel. We are in this respect extremely wasteful. It seems highly immoral, in many parts of our country, to consume more wood than is necessary, when we consider with what difficulty for a long time among us the waste of wood will be supplied; and how greatly the burdens of the poor are increased by extravagance in this matter on the part of the rich. We have yet much to learn on this subject in the construction of

our houses, of our fire places, of our apparatus for cooking, and in the proper management and expenditure of our fuel. 'I have ascertained,' says Judge Cooper, who is well qualified to speak on this subject, 'that charcoal used and not wasted will save three fourths of the expense of cooking in a kitchen. When wood is charred, nothing is driven off but acid and water, which are incombustible; hence if you weigh a piece of wood equal to one pound, and weigh a piece of charcoal of the same size equal to a quarter of a pound, you will find that you are at the expense in a common fire of burning previously a sufficient quantity of fuel to drive off three quarters of a pound, the difference in weight of incombustible fluid before the piece of wood becomes fuel itself. One dollar in charcoal in the common shallow French cooking stoves, will go further in cooking, broiling, frying, boiling, stewing, and baking, than four dollars in wood in a common kitchen fire place. In charcoal also, from a diminution of weight, the expense of carriage is materially lessened, and you can afford to get it from a cheaper country.'

All that I have undertaken on this occasion is to suggest a few hints, which I submit to the consideration of intelligent and practical men to use as they deem expedient; I therefore pass to another matter, which is conducive, if not essential, to the farmer's prosperity, I mean knowledge, skill, and experience. Agriculture is an important branch of natural philosophy. Experience is always a safer guide and a more competent instructer than theory; but we owe much in agriculture to the inquiries of intelligent and learned men. The nature and properties of different soils, the composition and uses of various manures, the organization of plants, the influence of the atmosphere, and of light and heat upon the growth of vegetables, the structure of animals and the improvement of the breed of animals, are all matters of profound philosophical investigation; and much as common farmers are disposed in general to deride learn-

ing in an agriculturist, they are indebted to the efforts of learned men for almost all the improvements which have been made in agriculture and domestic economy. Agriculture indeed is a science and an art to be studied and learnt as much as any other art or science; without knowledge and experience, men cannot expect to be successful in it; they labour to great disadvantage; and can do nothing more than pursue the same track, which their ancestors for centuries have trodden before them.

The farmer therefore should be constantly inquisitive, that he may obtain a better knowledge of his art, from books, and men, and from his own observation and experience. Every intelligent farmer should keep a journal of his husbandry, a history of the season, an account of the sowing and gathering of the produce of his grounds, and especially of the result of any experiments in cultivation, which he may make; it would be attended with no difficulty; it would be a source of pleasure and satisfaction to him; and might sometimes lead to valuable improvements; and he owes it to the community often to communicate the result of such experiments. We should be ashamed of those prejudices, which hinder our inquiries, and of that illiberality, which is sometimes discovered towards those rich and patriotic gentlemen, who devote a great deal of their time and property to experiments in agriculture, unprofitable indeed to themselves, but of the greatest public benefit. Nothing is so fatal to the progress of improvement, as prejudice, and the ridiculous conceit that we are already as wise as we can be. There is no principle in agriculture that we should not be willing to bring to the test of experiment; and there can be little doubt that many principles, which we now deem firmly established, will be discovered to be mere prejudices upon further examination. I had an instance of this a few days since on the ground of an intelligent and judicious farmer in my neighbourhood.* It has become an axiom among farmers that an orchard will not flourish if planted where one has formerly stood; yet he

* B. Goddard, Esq. Brookline.

showed me an orchard of ten years growth, planted where the old trees were grubbed up, as flourishing as the rest of his cultivation; and that, if I should point you to his farm, you would say, was as much so as could be desired. But experiments are important not merely in correcting what is false, but in ascertaining what is practicable. We have yet much to learn as to the actual capacities of the earth to yield; and some recent experiments have demonstrated in this respect what, but for this evidence, would have been deemed incredible. A member of this society* has proved that more than one hundred and ten bushels of Indian corn may be obtained at a single crop from one acre of our ground; and an intelligent friend† has assured me that he has raised in his garden upon two square rods of ground twelve bushels of potatoes, which is at the rate of nine hundred and sixty bushels to the acre. The experiments on the subject of soiling of cattle of another distinguished cultivator,‡ to whom I refer always with singular respect and pleasure, as a man worthy of the days of Cincinnatus, seem likely to prove of the highest benefit to our husbandry, and to produce a new era in our agriculture; since this practice promises a certain means, within every man's power, of procuring a competent supply of one of the best kinds of manure.

Nothing indeed is more likely to increase the farmer's prosperity than inquiry and experiment, and a knowledge of the inquiries and experiments of others. We have already reaped and are likely still further to reap the greatest benefits from the excitement to agricultural inquiries and experiments, produced by the patriotic exertions of this society. The exhibitions of this day, and of preceding years, afford a strong testimony in their favour; and the various agricultural experiments to which their premiums have led, and the valuable information detailed in their reports, and the important and successful attempts, which have been induced by

* Hon. J. Hunnewell, Watertown. † Rev. James Flint, Salem.
‡ Hon. Josiah Quincy.

their patronage, to improve our stock of domestic animals by the introduction of the best breeds of foreign countries, have conferred incalculable benefit on the Commonwealth, and may be regarded by every citizen of Massachusetts, with pride and pleasure.

I have already, I fear, detained you too long; but I promised to say something of the principal obstacles to a farmer's success; and there is indeed one, which so greatly transcends every other, and which is such a prolific source of wretchedness, degradation, and ruin to many of our farmers, that I shall confine my remarks to that. I am satisfied, it is well understood that I mean the abuse of spirituous liquors.

I confess, fellow citizens, that I am appalled by the magnitude of this evil; which is not indeed monopolised by the farmers, but extends to every class and threatens to overwhelm us with wretchedness and pauperism.* From the returns of the Marshals in 1810, it appeared that no less than 25,499,382 gallons of ardent spirits were distilled that year, of which were exported 133,483 gallons, leaving 25,365,899 gallons to be consumed at home. The same year about 8,000,000 gallons of rum and other distilled liquors were imported to this country, which, being added to the above, produced an amount of 33,365,899 gallons for our home consumption in a single year. Since that time it admits not a doubt that there has been a steady and rapid increase. This amount when divided among our population, excepting slaves, who are not allowed the use of ardent spirits, and children

* During the last year, a Report was presented to the legislature of New-Hampshire, respecting paupers. In this it was stated, that in 1800 the annual expenditure on that item amounted to 17,000 dollars. In 1819, although the population had not increased more than one fourth, yet the cost of the poor was 80,000 dollars; "a ratio of increase, which will double the expenditures in less than five years." In consequence of this alarming discovery, "the Committee reported a bill, providing, that no person between the ages of seven years and seventy years, having common ability to labour, should be maintained at the public expense; and that *no person, who shall be reduced to poverty by habitual drunkenness, shall be supported by any town.*"

under ten years of age, would give an allowance to each person on an average of more than seven gallons and a half a year. Now when we except the female part of the community, who use but little, and a large part of the community, who use none at all, the quantity consumed by those who do drink is enormous. In the town of Boston, and we can say as much in favour of the morals of Boston as of any city whatever, if I am not misinformed, there are more than eight hundred licensed retailers of ardent spirit, and many, who by some evasion escape the law and sell without license. If we estimate the number of shops and drinking houses upon a population of upwards of forty thousand, we shall find that it gives one retailer of spirits to every fifty inhabitants, and allowing every family to consist of seven persons it is nearly one to every seven families. If we suppose each of these shops to sell at the rate of seventy five dollars worth of ardent spirits by the year, which is not a dollar and a half a week, and then allow, as I think it is fair to allow, that an equal amount is drunken in the families, purchased in larger quantities, the direct tax upon this single town for this single article, valuing it at one dollar per gallon, is not less than one hundred and twenty thousand dollars per year. This, you will say, is monstrous; but suppose that our calculations are extravagant, reduce them one half; is not an expenditure of eighty thousand dollars a year for such an object upon such a population, monstrous! * Now making the usual allowances for the influx of travellers and strangers into a large town, and of many vagabonds and vicious people, who seek the concealment of a city, and the facilities, which

* This estimate must be quite within bounds. "By the most accurate computation, there are 1680 licenses for retailing ardent spirits, in actual force, in the city of New York; making an average of one tippling house to every fourteen houses in this metropolis. And by adopting the mode of calculation used by the managers of the Society, for the prevention of Pauperism for the year 1819, to ascertain the sum annually expended in New York, in the consumption of spirituous liquors, we arrive at the frightful result, that, in 1820 the sum of $1,893,011, was squandered in the use of this single article!"

it affords for depredation, and the quantity of ardent spirits consumed there, is not disproportioned to what is consumed in the towns in the country. But the actual cost of the liquor is by no means the whole nor the worst part of the expenditure. It has been ascertained by careful inquiry, that nearly four fifths of the tenants of our alms-houses and of paupers, who are supported by the town or state, have been reduced to beggary by their own intemperance or the intemperance of those on whom they depended.* The same remark applies to the convicts in our prisons. Its effects upon the agricultural part of the community are as disastrous as can well be imagined. I have known in one immediate neighbourhood seven estates of persons once of respectable standing in society, and most of them with families, mortgaged and lost, and their families reduced to beggary, solely by the intemperance of the fathers and husbands; and in a neighbouring state, I have witnessed with unmingled pain an extensive county, which twenty years ago was flourishing, now impoverished and desolated by the scourge of intemperance. But instances without number of the ruin and misery, which this vice brings with it, occur to every man, who will open his eyes. Where you see one of these grog shops established, one of these gates of perdition set open, there you see the work of ruin begun, and idleness

* The Report made to the Legislature of Massachusetts, the last winter session, consisting of Reports from several towns in the Commonwealth, states that in one of the towns it was found that thirteeen-fourteenths of the poor, whose maintenance was a burden on the corporation, were brought to the alms-house, "either directly or indirectly, by intemperance." Another statement says "Intemperance is the most fruitful source of pauperism. More than half the adult persons who have been admitted to our work-house, for sixteen years, have been addicted to the excessive use of ardent spirits."

It is a fact, stated on the proper official authority, that, during the last year, of 87 patients admitted into the Hospital for the Insane at New York, "the insanity of 27 was caused by the intemperate use of ardent spirits."

In an Address delivered the last year at Roxbury, it is remarked "The bills of mortality declare, that the annual average of deaths in Massachusetts from intoxication alone, is 666."

and profligacy, and quarrels, and debt, and mortgage, and imprisonment, and poverty, following with inevitable certainty.* In a word the use of ardent spirits is to the community a source of more wretchedness, poverty and crimes, than all other causes combined. The farmer is not less in danger than any other person. Much habitual drunkenness has been produced, and many a farmer completely ruined, by allowing to himself and his hired labourers the use of ardent spirits.

I take upon me to say, on the highest medical authority, that none is necessary to the strength and vigour of the human constitution. Men, who drink no spirit whatever, can in fact perform more labour and suffer far less from exposure to the extremes of heat and cold, than those persons, who depend on the temporary stimulus of ardent spirits. They are not so liable to droop under the heat, nor to perish with the cold, as many facts have proved. The time has come when it may be laid down as a settled principle, a principle, which is in the last degree essential to our agricultural as well as moral prosperity, that no spirituous liquor is necessary to the labour of a farm; and none ought ever to be used on a farm.†

* Dr. Nichols in an address recently delivered at Danvers, gives the following valuable calculation. "There are but few labourers among us, who pay less than 50 cents a week, which amounts to a fraction over seven cents a day, for ardent spirits, &c. Instead of spending this for that which is not bread, place it in the SAVINGS BANK. At 5 per cent. compound interest, (the rate allowed,) it will amount in 5 years to 146 dollars 48 cents; in 10 years to $333,94; in 15 years to $573,93; in 20 years to $881,12; in 30 years to $1761,30. How much," he exclaims, "would this sum improve the condition of many among us, at the age of 50 years.

† It has long been imagined that the labouring classes could not sustain themselves under the weight of their daily employments, and especially in founderies and large manufacturing establishments, where they are much exposed to heat, and breathe a confined atmosphere, without the regular use of ardent spirits. The results of an important experiment made, during the last season, by Mr. James P. Allaine, of the City of New York, establish the fallacy of this opinion.

"Mr. Allaine is the proprietor, of a large foundry at Corlaer's Hook. During the last season he employed upwards of sixty workmen, more than thirty of

The practice of some of our farmers in this matter deserves to be mentioned with the warmest commendation; and as likely to aid in a high degree the interests of humanity as well as of agriculture. I know several cases, in which farming is conducted with perfect success, to the mutual satisfaction of the labourer and his employer, without any spirituous liquor being allowed, and none used, excepting in the season of haying, and then in the most moderate quantities, because it is at the expense of the labourers themselves. One of these is a case, in which the farmer has at least seven hundred, and another nearly two thousand, days' labour done in the course of the year; and one of the instances, to which I refer is not the experiment of one year only, but of more than twelve years in succession. Every farmer, who has a proper regard for his duty and interest, and the best interests of his fellowmen, should come to the determination on no consideration whatever, and in no form whatever, to

whom were men of families. In the course of the summer, he was informed that many of them were in debt; and on investigating their concerns, with surprise he ascertained the fact, that every one who was in the habit of using ardent spirits was involved to an extent beyond his ability to pay; and, with a satisfaction equal to his former surprise, he learned the additional fact, that those who made no use of spirits were in easy circumstances, and their children well provided for at school. Nor did a difference of wages, from seventy-five cents to one dollar and twenty-five cents per day, make any perceptible change in the situation of the former class of workmen.

"With this picture before him, Mr. Allaine was at once induced to prohibit the use of ardent spirits altogether in his shops, during working hours. But one person left his employ in consequence of this restriction; and this man had borrowed of Mr. Allaine, while in his service, upwards of 300 dollars to pay grocery-bills. In conclusion of his letter Mr. Allaine observes: 'I have great reason to be pleased with the happy effects of this regulation. I find my interest better served; and that those, who, from excessive drinking, had become of but little worth to me, and, in many instances, of less to their families, have now become able and steady; earn more money; and their families, as well as themselves, have expressed in a language not to be misunderstood, the many comforts, and the domestic happiness, which they enjoy in consequence.'" For several of the above notes I am indebted to the Annual Report of the Massachusetts Society for suppressing Intemperance, which is just published, with the Anniversary Discourse, by the Rev. Mr. Jenks.

admit within his territories this greatest and most subtle enemy to his peace and prosperity, and to the peace and prosperity of the Commonwealth.

It will not be deemed foreign from the occasion, if I call upon every good man, who hears me, to lend his aid in the suppression of this unnecessary and detestable vice; in the removal of this greatest disgrace of our virtuous community; and in withstanding the progress of this tremendous moral desolation. How deeply would the sympathies of the whole country be roused, if it was declared, that in some one of our most public places, and in broad day light, one of our fellow citizens, blest perhaps with property and education, and having those around him, who look with trembling agony for their subsistence and comfort and honour to his exertions and character, was about to commit deliberately an act of self destruction; and not merely to be allowed, but encouraged and assisted, to do it. How would every generous heart melt at the recital and kindle with indignation at the savageness of those, who could assist at the sacrifice! Yet, fellow citizens, this is no picture of the imagination: and in a state of society as enlightened, as virtuous, and as much blest as any ever was, these sacrifices under circumstances of tenfold exaggeration, are every day permitted; and accomplished by means though of gradual, yet of certain progress, and as degrading and brutal as can be imagined. I would not do any man a wrong, but for my part, I cannot but regard the retailing of spirituous liquors, excepting in public licensed taverns, and then only to travellers, the retailing of spirituous liquors to the inhabitants of the same town or neighbourhood to be drunken on the spot, as an employment among the most immoral of any that are tolerated by the customs of the community; and I consider the man, who knowingly and voluntarily contributes to seduce his neighbour, and to encourage his habits of intoxication, as in fact, if I were giving my verdict on oath I should say so, as criminal as the common murderer and

robber. Far better would it be in most cases for the wretched victim at once to take his life and his property than to entrap him by guile; and to subject his poor wife and children to the bitterest agony, and to their feelings the deepest disgrace.

In the name of all that is dear to religion and humanity, of all that is valuable to us as men, as citizens, and as christians, I call upon those, who have influence in the community, upon those to whom the making of the laws, and those, to whom the execution of wholesome laws is intrusted, upon the guardians of the Commonwealth, to inquire what they can do, and to do every thing that can be done, to arrest the progress and to close the source of this terrible evil. It is only the pretence of indolence and inhumanity that nothing can be done. Let every good man in the community utterly withdraw his patronage and custom from places, where such practices prevail. Let the selectmen of our towns execute their duty and the courts of Sessions restrain the emission of licenses. Let the grandjurors present, as they are bound in oath, every violation of the laws, that comes within their cognizance. Let the legislators make it highly penal to sell liquors in any small quantity. Let all debts, contracted for spirituous liquor be made irrecoverable by any process of law, and the oath of the defendant, as in case of usury, be deemed a sufficient evidence of the fact. Let the price of a license be such as to render it profitable but for few persons to obtain it; and so that they may be compelled to contribute in a just proportion to the support of those, who by their intemperance have become a charge upon the town. The superior discretion and wisdom of those, to whom are committed the highest interests of the community, will suggest many other and better means of removing this evil and preventing its further progress. Never was there a subject more deserving of the consideration, and solicitude, and persevering exertions of the patriot and the christian.

Forgive me, fellow citizens, that I have strayed thus far from the proper duties of the occasion. We celebrate the Farmer's Holiday. It is an occasion on which we may contemplate with honest pride, and with exalted satisfaction, the happy condition of our Commonwealth. Agriculture, the first and noblest of all arts, and one of the most honest and honourable of employments, the great source of national power and prosperity, begins to excite among us an interest, proportionate to its importance; and to receive that patronage, which augurs well for its future prospects—Blest with a government, which secures to every man the rights of property, and the full enjoyment of the produce of his labour; with a soil and climate, with which we have no reason to be dissatisfied; for if they have not the mildness and the luxuriant fertility of other regions, they are exempt from many evils to which others are subjected; enjoying throughout the community the blessings of education, religion, and civil liberty; and with a yeomanry as enlightened, as moral, and as enterprising, as can any where be found, we may anticipate the most important and delightful results. In view of our fruits and our fields, our villages and our domestic retreats, we may exclaim with the Roman Poet, "Happy farmers, if they knew the blessings, which they possess."*

REPORT OF THE COMMITTEE ON MANUFACTURES.

The Committee on Domestic Manufactures award as follows:

To William Sheppard, of Watertown, for the best specimen of Broadcloth, the first premium, $30

To the Wolcott Woollen Manufacturing Company for Broadcloth, the 2d premium, 20

* O fortunatos nimium, sua si bona nôrint, Agricolas.—GEORG. LIB. II. l. 458.

To Stephen Buttrick, of Framingham, for Woollen Cloth of Household manufacture, the 1st premium, $ 12

To Jonas Pollard, of Bolton, for ditto, the 2d premium, 8

To the Wolcott Woollen Manufacturing Company for Cassimeres, the 1st premium, 15

To Edward Howard, of Dudley, for ditto, the 2d premium, 10

To the Wolcott Woollen Manufacturing Company for Satinets, the 1st premium, 10

To Isaac Curtis, jr. & Co. of Stockbridge, for do. the 2d premium, 6

To Nathan Barrett, of Concord, for the best specimen of Carpeting, the 1st premium, 15

To Betsy Delano, of New Braintree, for the 2d best, the 2d premium, 7

To the same for Linen Diaper, the 1st premium, 10

To Joseph Richardson, of Hingham, for ditto, the 2d premium, 5

To Thomas Hart, of Dorchester, for Cotton Shirtings, the 1st premium, 20

To William Phillips and Co. of Dedham, for Worsted Hose, the 1st premium, 5

To Lemuel Healey, of Dudley, for Sewing Silk, the 1st premium, 5

To Caroline Bronsdon, of Milton, for ditto, the 2d premium, 3

A piece of Stair Carpeting, manufactured by Miss Anna Edes, of Charlestown, was of sufficient good quality to be entitled to a premium, and would have obtained one had there been the number of yards required by the Trustees.

A premium was withheld for the same cause from Mrs. Oliver Fiske, of Worcester, who presented a piece of Flannel. In point of firmness, softness and strength, it was thought entitled to favourable notice. The committee exceedingly regretted in another case, that of Mr. James

Howarth, of Andover, that they were precluded by the unseasonable entry of his Flannels, from giving them the advantage of a premium. The specimen was thought very good, and perhaps there is no article of domestic manufacture more deserving of liberal encouragement.

The Satinets of Daniel Ellis & Son of Walpole; the Shirtings of the Thread Manufacturing Company of Seconk; and the Gauzes of Archibald Kennedy, of Seconk, although they were entered too late for examination by the committee, were inspected by the great number of persons who visited the hall on the second day of the exhibition, and whatever be the merit of these fabrics, they have obtained their fair reputation with the public, which will in a measure allay the disappointment of the manufacturers, who lost their opportunity of obtaining premiums.

The Trustees have offered the following gratuities:

To Elisha Hammond, of Brookfield, for a specimen of Rose Blankets, better than any exhibited at Brighton in former years, $ 5

To Julia A. Drury, of Marblehead, for a Hearth Rug, quite equal in quality to the best inported, 5

To Mary F. Baldwin, of Chelmsford, for a Hearth Rug, of prime quality, and a Lace Veil, 5

To Abigail Little of New Braintree, for a Hearth Rug, 3

To Elizabeth Denny, of Worcester, for ditto, 3

To Rebecca Warren of Chelmsford, for ditto, 3

To Mrs. Lewis of Dorchester, for a Silk Sash, 2

To Priscilla W. Drew, of Plymouth, for a Linen Lace Cap, 2

To Betsy Merrill, of Salisbury, for Linen Thread of a very fine quality, 5

To Elizabeth O. Spear, of Dorchester, for a Cotton Counterpane, 5

To Hannah Hoar, of Lincoln, for ditto. 4

To Phoebe Whitemore, of South Boston, for ditto, 3

To Mary Brown, of Hingham, for an imitation Leghorn Bonnet, 5

To Lydia and Hannah Marshall for ditto, 5

[These specimens were, in neither case, fine; but every example of this manufacture is deserving of reward, because it is of recent origin here. The material is a native grass; the fabric is more durable than that of straw, and may be expected soon to rival the best specimens of a very expensive imported article.]

To Ebenezer Blake, of Wrentham, for Straw Bonnets [of a finer quality than any exhibited at either of the former shows,] 5

To Benjamin Wheeler & Co. of Framingham for specimens of Straw Bonnets, very beautiful, 4

To Ann Dalrymple, for a fine Straw Bonnet, 3

To Mr. Cephas Leach, of Easton, for Straw Bonnets, 3

[Mr. Leach would have received a larger gratuity, had his specimens been presented on the day appointed for the examination.]

To Misses Sarah, Polly and Elizabeth Lewis, for a variety of Fancy articles manufactured from the Down of the Turkey—to each, 2

To Miss Odiorne, of Boston, for a Gown made from Cotton and the ravellings of an old silk gown, 4

[This article, together with several specimens of Thread, made by two females whose names do not appear, from shreds of silks and gauze taken from the sweepings of a milliner's shop, may be classed among the savings of a minute economy, not to be mentioned but with respect. Examples of this sort serve to suggest new resources to the necessitous, and add to the stock of useful employments for female children in humble life.]

To Jane Swan, of Methuen, for fine Linen Thread, 3

To Hannah Sparhawk, for Worsted Hose, 2

To Mrs. Hawkes, of Lancaster, for ditto, 2

To Mary Ann H. and Margaret P. K. Rider, for needle work, each 2

To Mr. John Johnson, of Marblehead, for a Caplin Seine and a Herring Net, manufactured from Cotton, 10

[This is a new article; the public is indebted, as far as the committee can learn, to Mr. Johnson, for introducing the use of Cotton for this purpose. The fishermen of Marblehead, it is said, prefer Mr. Johnson's nets to those made from Hemp; whether of foreign or domestic manufacture.]

The water-proof Hats, of a superfine quality, exhibited by the Watertown Hat Manufacturing Company, appear to unite the qualities of great firmness and lightness. They were finished in the best style, and judging from these specimens, their manufacture has attained to great perfection.

A gratuity of *twenty dollars* was tendered to this Company at the last annual exhibition. A similar mark of approbation is certainly as well merited, to say the least, the present year.

The Trustees have sanctioned a gratuity of *ten* dollarsto Col. Johnson Mason, of Medfield, for a specimen of *Duck* made with a machine, the invention of Dr. Jesse Fox of Saugus, and which has received some improvements by Mr. Mason. The sum given to Mr. Mason bears no proportion to a just estimate of the importance of the manufacture, or to the merit of the specimen. The thread is very even and no defect could be detached in the fabric, although critically examined by several navigators. It was thought by these gentlemen to bear a comparison with the best quality of duck of foreign manufacture.

The broadcloths exhibited the present year were not of the class of extra fine. They were the best of that description of cloths which can be afforded in our market cheaper than the imported. The cloths of domestic manufacture worth from two dollars fifty to six dollars the yard, have taken the place of imported cloths of

the same kind, and have put a stop, almost wholly to the importation. The importation has been progressively diminishing for some years. Those of the committee more particularly conversant with the subject, and whose experience may justify the expression of an opinion, entertain no doubt that the manufacture of *middling* and *fine* cloth may be considered not less firmly established among us than that of cottons, and that under equal advantages of capital and good management, it will not be less profitable. It is creditable to our Woollen Manufacturers, that the *finishing* is now in no degree inferior to that of the English. The fixing of the blue dye, one of the greatest difficulties in the art, is now well understood. The blue is made as permanent as any other colour. There is the same variety in the shades as in the English cloths, and there is no want of brilliancy.

The progress of household manufactures in all their endless variety, is less apparent than that of the fabrics made by incorporated companies, because the former are carried on in retirement, are brought into the market in small parcels, without pretension. Their origin is unknown to the public, and they are often admired and purchased (particularly fancy articles) as the products of the ingenuity and taste of foreign countries. So far as respects articles of the first necessity, the domestic manufacture is growing so rapidly as, every year, to diminish the importation of many kinds, and to stop altogether the importation of a *few*. Excessive bounties from government for the purpose of encouraging domestic manufactures must, it is obvious, have a contrary tendency, since by increasing the profits of a business already lucrative, which would be the effect of this policy, too much capital would be diverted into every successful branch of manufacture, thus artificially raised into public notice, and ruin would be brought upon those very establishments, which are now enjoying an amount of profits,

certainly well earned, but sufficiently ample for the desires of reasonable men, and certainly so for the public.

RICHARD SULLIVAN,
ABBOTT LAWRENCE,
JOHN LEMIST.

Brighton, Oct. 11th, 1821.

REPORT OF THE COMMITTEE ON HORNED CATTLE.

THE committee appointed to award the premiums offered for every species of Horned Cattle, report, That the wise provisions of the Trustees in dividing the duties of the committee on live stock was this year wholly defeated, as to *that branch*, which comprises horned cattle, owing to the great and unexpected increase in the number of competitors. From eighty different entries of live stock, which was the number last year, it this year suddenly rose to more than one hundred. Perhaps there is no surer test of the increasing interest felt in the subject of agriculture generally, and in the improvement of domestic animals more particularly, than the increase of the number of different objects entered for premium since the first cattle show in 1817, which has been from thirty-seven to more than one hundred, and this at the time and during a period in which three very respectable county societies have sprung up, full grown, in our immediate vicinity. It must be observed that when we speak of the number of *entries*, we do not confound it with the number of *animals*, which we are persuaded exceeded three hundred, and we should not be surprised, if they amounted to five hundred. This increase, while it must be gratifying to the friends of agriculture, (or which is tantamount) the friends of their country, like many other *good* things has its attendant *evils*. It renders the duties of those appointed to decide not only more laborious, but more

painful and invidious. The *labour may indeed*, and *must* in future years be diminished by a division, unless men shall be expected to sacrifice their health to the object—but the other evil cannot by any possible measure be remedied. The duty must be *forever painful and invidious*. Thus, for example, though you may have as many committees, as there are different descriptions of animals offered for premium, and it is obvious you cannot extend the division of labour beyond that point, still so long as you shall have as the committee had this year *thirteen* milch cows all of excellent quality to examine, and while they can only award *three* premiums—and so long as there shall be offered twenty-three heifers, out of which you are to select but two, the duty must be painful and invidious. For it is not to be disguised, that it is not the disappointment of not receiving a prize of twenty or forty dollars, which is the principal source of vexation, but it is the mortification of defeat, the humiliation of having formed extravagant notions of one's own animal; expectations encouraged by all one's neighbours who comparing our bull, or bull calf, or cow, or heifer with all those in the *little world around us*, have decided the question before hand, that *we must* gain, not *the money*, (for that is too contemptible,) but the honour of *the victory*. But the *field of Brighton* soon dissipates these *local* illusions. *There* they see the pride of a *hundred villages assembled*, and we have no doubt, that if self love and mortified hopes did not prevent the exercise of sound discretion, the candidates themselves would, in most cases, generously award the prizes to their more fortunate competitors. These remarks are made with a view of presenting not merely to *competitors*, but to the *public*, the serious difficulties of such a mode of trial. Errors may be—nay, *must* be committed by any judges however intelligent. The only thing in favour of their judgment is, that it is disinterested and well weighed; and after all, they *do* obtain something like the expres-

sion of public opinion, *without consulting it*, because they have an opportunity of seeing the throng of spectators around the favourite animals—they do in spite of themselves hear the verdict of the public, and though they endeavour not to be influenced by it, yet it would be absurd to suppose that these marks of public preference had no effect upon them.

This committee having under their cognizance the articles for which the show at Brighton was *originally principally* designed, may be indulged in making some general remarks on the tendency, and effect of their exhibitions.

It is not more than forty years, since the idea was entertained in Great Britain, that a spirit and energy could be given to agricultural efforts, by associations, public exhibitions, and premiums judiciously awarded. The effects produced in that country, more especially in the improvement of their stock have far exceeded the most sanguine hopes of the first promoters of this system. We have little and indeed no doubt, that the horned cattle and sheep of Great Britain were fifty years since, not superior to ours. We believe that the races of domestic animals imported from any part of Europe, not only do not deteriorate but that they improve in all the Northern parts of the United States. We believe that we have native animals of all descriptions, with the exception perhaps of the crosses of hogs with the Chinese breed, (which we have however recently imported,) equal to any Great Britain possessed forty years since, when Bakewell, Coke, Princeps, and an hundred other farmers, or opulent land holders in that kingdom, set about the patriotic work of improving their native breeds. They did not commence it by *importations*—they confined themselves simply to *selection*, and the effects were such as that in a few years, bulls, which of the best description at a former period might have brought one hundred dollars, sold for four

thousand five hundred dollars. This was no speculation of a visionary character, like the rage which prevailed with us for a short time in relation to Merino Sheep. It sustained itself, and exists to the present hour, so that a bull calf of certain breeds considered perfect, will bring from two hundred to four hundred dollars.

If we were asked the general character of our best shows of cattle compared to those at Smithfield on their anniversary show, or at Lewes, or many other places in England, we should say that it will require at least ten, or perhaps twenty years, for us to equal them. Yet it is our firm conviction, that if we had never imported a single foreign animal, but had excited a strong zeal in our own country to select and propagate the best animals of native production, we should in the course of twenty or thirty years have been able to send animals to Great Britain and contend against their best raisers of stock for the first prizes. Nay more, we believe *now*, that if we could transport the *best working* Cattle of Worcester and Norfolk, (the latter however being all purchased from back counties) to Great Britain, they might challenge *all the three kingdoms* to compete with them in all the various points of labour to which cattle are applicable. These working cattle are, *we know*, as much superior to theirs, as our stock is inferior to theirs in the articles of bulls, cows, sheep and hogs. The fact, that we are so superior to them in this point, of which we have no question, proves, that we have among us an admirable but neglected race of animals, and the reason is obvious. Is a *calf* remarkably *fat?* Does he weigh one hundred and fifty pounds at the end of six weeks, and that accompanied by an excellent form and proportions? His fate is decided. He must feel the sharp knife of the butcher—he must prematurely pay the forfeit of his uncommon and excellent qualities, and load the table of our *epicures*, who would have made a better dinner on a smaller and less valuable animal.

It may be reasonably asked then, why have you encouraged the importation of *foreign stock?* Why have you paid such liberal prices to those who have imported them? Our answer is very brief—and we hope satisfactory. It was done *principally* with the view of shewing our farmers, what *had* been done in *other* countries in a short time by careful selection and cultivation. No man who ever saw Denton, Mr. Williams's bull—Fill Pail, Mr. Thorndike's, presented by him to the Agricultural Society—Cœlebs, sent to our country by Mr. Coolidge—or Holderness, imported by Mr. Parsons, could entertain a doubt, that they were superior to any animals of the same description which we had ever seen. It was a short and conclusive mode of producing conviction;—though equal care might in a few years have produced an equally improved native stock, yet the process would have been slow, and every lost year is of great importance.

That these animals did produce a great impression upon our farmers, it is now needless to state. The simple fact, that farmers, always too cautious of adventuring their money, were ready to send their cows at five dollars, and even ten dollars, to these imported animals, instead of fifty cents for the use of our native bulls, is conclusive.

But what is still more conclusive, because the facts we have now mentioned *might* have been the effect of fashion, or of speculation, is, that when the *progeny* of these animals appeared at our shows, they attracted every eye, and commanded on an average *four times* the price of our native breed.

The effect has been so great as to cause the disappearance of our native breed of *young* animals at our shows, with a few exceptions.

It ought however to be remarked that our cows offered for premium, are still almost entirely of domestic growth, and of most estimable qualities; so that we seem to possess all the advantages we could desire of availing ourselves of

the perfection of the British stock connected with females of excellent properties of our native breed.

We shall now proceed to announce the premiums.

FOR NATIVE BULLS.

The committee award the first premium of forty dollars, to a bull raised by Mr. Samuel Brooks, of Brighton, sired by 'Holderness' the imported bull of Gorham Parsons, Esq. of Brighton.

The second premium to Stephen Patch of Lincoln, twenty dollars, for a native bull. This bull was the progeny of one raised by Payson Williams, who gained the first premium two years since, and is an encouragement to the preservation of our best native stock.

There was several other bulls which attracted the attention, and held in suspense the opinions of the committee.

The most remarkable of these were a bulls of the Hon. Mr. Welles, from 'Denton,' the celebrated imported bull of Mr. Williams, of Northborough.

The bull of Mr. Prince, from 'Holderness,' from Mr. Prince's Alderney cow, imported and sold to Mr. Prince, by Capt. Tracy of the London Packet.

A bull of Joshua Coolidge, of Watertown, from the celebrated Cœlebs.

Several native bulls of considerable merit, were also exhibited.

BULL CALVES.

The first premium for the best bull calf, was awarded to Charles Clark, of Framingham, one quarter Fill pail, and three quarters native stock, fifteen dollars.

This case is worthy of notice. The animals produced by Fill Pail (Col. Thorndike's bull) have always discovered a strong resemblance to the parent. His qualities are excellent, but every farmer knows that you are not certain in crossing the breeds of retaining in the first cross the character of the original stock. Perhaps in the second or third

generation you will attain the greatest degree of perfection, though you may fail of it in the first cross. The decided superiority of this bull calf is highly in favour of the progeny of Fill Pail, and should induce our farmers not lighly to give them up. There were many other fine animals from Fill Pail, such as Mr. Parsons's two heifers, offered for exhibition, and others which will be noticed hereafter.

The second premium for bull calves was awarded to Francis Amory, Esq. of Milton, eight dollars.

This calf was out of Cœlebs, and long held the committee in doubt as to his being entitled to the first or second prize.

A third extra prize, not originally offered or advertised, for a Bull Calf, was awarded to Samuel Cutter of Cambridge, five dollars.

This Calf was out of 'Holderness' and was in fine, perhaps *too fine* condition to be judged of fairly.

It is indeed important, that farmers should know that their animals rather suffer than gain in our estimation and award, from being overfed and presented to us, unnaturally fat.

There was an admirable bull calf offered by Mr. Uriah Manning of Woburn, of the Cœlebs race, who would have taken a premium, but he was offered two late. He sold at six months old at our auction for sixty-three dollars.

There was a beautiful bull calf exhibited by Joseph Goddard, Esq. of Brooklyne, of our native breed, who would three years since have obtained one of our two premiums, and we hope this race may not be neglected, but he did not appear to the committee quite equal to those to whom the premiums were awarded.

There were also two beautiful bull calves exhibited by Dr. Chaplin and Major Wheeler of Framingham.

MILCH COWS.

The premium for the best Milch Cow, 40 dollars was awarded to John Stone of Marblehead, for his Cow raised in Lynn.

His application was accompanied by written documents and satisfactory proofs, that this Cow had produced from the 1st of June, to near the day of the Show, from 12 to 9 pounds of butter per week; averaging 11 pounds through the whole time. It was the only case duly authenticated, and surpassed even the verbal statements, often loose, of the other claimants. The next year the Trustees will probably require affidavits on this subject from all claimants—because the properties of a Milch Cow can be but imperfectly known by inspection.

The second premium was awarded to John Prince, Esq. for a native Cow—30 dollars.

The third premium for a Milch Cow, to Gen. S. G. Derby, of Weston—20 dollars. This Cow was of the Alderney breed, imported by Benjamin Lee, Esq. of Cambridge.

It will be seen that we give high premiums to our excellent Cows, because we believe they are the most important articles in the improvement of our stock. There was an admirable Alderney Cow exhibited by John Hubbard, Esq. of Boston, imported by him, whose progeny, a fine Bull Calf, was generously given to the Society, for which he has received its thanks, and will receive those of every friend to Agriculture.

There were ten other distinguished Cows offered for premium. Those which the committee deemed worthy of particular notice among so many excellent ones were—a Cow of the Hon. Mr. Welles of Dorchester—a young Cow of Dr. Foster's, progeny of the Cow which obtained a premium three years since, and an admirable animal—an excellent Cow of Major Wheeler's, of Framingham, which would have been classed with those entitled to premium, if he had not with great frankness very honorably expressed his doubts, whether she was raised *within the state*, which is one of our indispensable conditions. This example of Major Wheeler deserves our thanks. There ought never to be an attempt to evade our rules.

Mr. Luke Fisk of Waltham, a well known and successful candidate for our premiums, and highly deserving our notice as an intelligent cultivator, offered an excellent Cow, but he had owned her for so short a period as not to permit us to award any premium.

There were several other excellent Cows, particularly those of Mr. Brigham. Mr. Sparhawk and Mr. Hunting, but the weigh of evidence decided the committee in favor of those selected.

FAT OXEN.

As to Fat Oxen, the Show was comparatively meagre. We do not at all refer to the inferiority of the animals offered, though we have undoubtedly had better in some years. From *fourteen* in number we have fallen to *four*. Whether this is to be attributed to the season, or the market, or both, we cannot determine. We have in deciding these premiums followed one fully and deliberately settled rule, to give the premium to the best animal on the whole, without regard to weight.

We therefore award the first premium for fat oxen, to J. Hubbard of Hatfield, 50 dollars—weighing alive 2308 pounds.

The second, to Stephen Howe of Petersham, 40 dollars, weight of his ox, 2460 pounds.

The third, to Asa Rice, jun. of Shrewsbury, 30 dollars. For an admirable and extraordinary 4 year old steer, weighing 2068 pounds.

HEIFERS.

The first premium for heifers, among 28 animals of this class, was awarded to Moses Coolidge of Watertown, premium 15 dollars—The heifer was of the Cœlebs breed.

The second, to Dr. James Prescott Chaplin of Cambridge, premium 10 dollars—we believe of the Fill Pail breed.

The heifers most distinguished not admitted to premium, were Mr. Abner Wheeler's two heifers of native breed of excellent forms and qualities—Mr. Parsons's offered for exhibition only—Major Jaques's 2 heifers of the Cœlebs breed —Hon. Mr. Welles's of his well known excellent stock.

The Society moreover granted as a gratuity to John Badger, of Natick, ten dollars for an exhibition of three very tolerable heifers, produced at a birth, though not of themselves in other respects entitled to premium. They are now near two years old, almost exactly alike, and his desire to gratify public curiosity merited some remuneration.

In conclusion, the Chairman of this committee must express his regret, that he was not able to present at the meeting at Brighton, a written report, in which he could have done justice to all the competitiors, and that in a hurried and confused statement from memory, fatigued and exhausted as he was, and unaccustomed for many years to public speaking, he may not have done justice either to the Trustees or the Competitors.

JOHN LOWELL, Chairman.

REPORT OF THE COMMITTEE ON THE PLOUGHING MATCH.

The Committee upon the Ploughing Match, consisting of E. Hersey Derby, Chairman, Isaac Davenport, Silas Gates and Paul Upton, Esq. ask leave to Report:—

That a piece of green sward land was divided into lots of a quarter of an acre each, that there were several competitors, viz.—Silas Dudley, one pair of cattle, himself, both ploughman and driver—time employed 43 minutes. Lewis Lilly, one pair of cattle, himself, ploughman and driver—53½ minutes, Joseph Curtis, two pair of cattle, with Nelson Marvel, ploughman, and —— Moulton, driver—55 minutes. Samuel Ward, one pair of cattle, Clark Jenney, ploughman, and Elias Sawyer, driver—57 minutes. Aaron D. Williams, two pair of cattle, David Morrison, ploughman, and Abijah Seaver, driver—64 minutes. Jonas L. Sibley, one pair of cattle, Samuel Sibley, ploughman, Jerry L. Batchellor, driver—44½ minutes. And Darius Putnam, one pair of cattle, himself ploughman, and driver—39 minutes. Places

being assigned by lot. That the work in general was very excellent, and that they have found great difficulty in awarding the premiums. They consider the ploughing of Messrs. Curtis and Williams as rather the best, but being bound by their rules and regulations to consider not only the excellence of the work, but the economy of labor as well as the time employed, and considering that both Messrs. Curtis and Williams, each had two yoke of oxen and a driver, and Mr. Dudley had only one yoke of oxen and no driver; and also considering the excellence of his cattle, and his peculiar skill of managing them, together with the goodness of his work they have been induced to award;

To Mr. Silas Dudley, of Sutton, the first premium, 20 dollars as owner of the plough; 10 dollars as ploughman, 5 dollars as driver.

To Mr. Curtis of Roxbury, second premium, 12 dollars, as owner of the plough.

To Nelson Marvel, 6 dollars as ploughman.

To —— Moulton, 3 dollars as driver.

To Mr. Aaron D. Williams, 3d, 8 dollars as owner of the plough.

To David Morrison, 4 dollars as ploughman.

To Abijah Seaver, 2 dollars as driver.

They had great pleasure in observing that all the teams were very fine and under excellent management.

E. HERSEY DERBY, *Chairman.*

Brighton, Oct. 11, 1821.

REPORT.

The Committee on Working Oxen, consisting of Messrs. John Welles, Samuel G. Derby, and Elijah Perry, report:—

That they have been much gratified to find that the encouragement given by the Society has had so beneficial an effect.

The Show of Working Cattle this year was certainly superior to any that have preceded it. Eleven yoke of Work-

ing Cattle were entered to contest for the premiums, and, if the advantages of competition and excitement needed illustration, it would receive additional force from this part of the exhibition.

The cattle were in general well made and well matched, of great power and docility, and their training superior to what has been before presented to the view of the Society. Still, in backing, which is a most useful and necessary power in the ox team, there is more attention needed in our farmers. Several owners of oxen went from the exhibition, satisfied that their cattle were not so well trained in this particular as to deserve the premium. It is a source of much gratification to the Committee, that they can feel so strong an assurance, from the appearance of the young stock, exhibited this year, that the zeal and enterprise of our countrymen is likely, for succeeding years, to present a breed of cattle more deserving of encouragement and more promotive of the best interests of the country.

After an impartial examination of the working oxen, and such test of their power and training as could be had, the Committee awarded as follows:

To Darius Putnam, of Sutton, 1st premium.

* To Silas Dudley, of Sutton, 2d do.

To David Smith, Jr. of Waltham, the 3d premium.

To John Atkins, of Natick, half the 4th do. $7 50.

To Jonas L. Sibley, of Sutton, the other half 4th do. $7 50.

To Jonathan Davis, of Oxford, the 5th do. $10.

The fourth premium was divided from the general circumstances of equality in the minds of the Committee. The 5th premium was richly merited by Mr. Davis, for his Steers,

* The second premium which was awarded to Silas Dudley, and would under other other circumstances have been well deserved, could not consistently with the rules of the Society be paid, as the same cattle had received a premium of the Society at an exhibition in a preceding year. This fact was unknown at the time. This regulation is important in the view of the Trustees in producing a more extensive and beneficial competition. It has been announced in their advertisement of premiums, and as they thought was fully understood by the public.

only 3 years old, which discovered no want of power in the usual movements of a load and waggon weighing nearly fifty hundred.

The Committee on 'Working Oxen' have a full conviction of the motives which govern the Trustees of the Agricultural Society, in the premiums which are offered for the several grades of Working Oxen.

The utility of the Ox-team, its adaptation to the nature and condition of our soil, and its cheapness of support, said to be at less than half that of a Horse-team, would induce a belief that it must be in use in New England altogether. There are however other and very important considerations. A judicious farmer may make his team every year of increased value by their growth and training; and in case of most of the accidents that can befal them, the carcase is of nearly full value. It is not so with the Horse-team. And when it is considered that, from the use and multiplication of oxen one of the greatest staple articles of our country is enlarged, the motive becomes imperative, and the interest of the Society involves that of the state.

It may be said that these facts are known to our intelligent farmers; but it is a source of regret that a great increase of horses in double teams has taken place, which must lessen the means of support to our increasing population, and thus become a public evil.

But your Committee consider that the principal, if not the only objection to the Ox-team, its want of speed, may be nearly corrected in the training, and they are happy to see in the cattle exhibited this year, much to encourage the expectation. The motives for the use of ox power are so persuasive and well founded, embracing so deeply both individual and public interests, that your Committee cannot but trust they will find a due estimation and support in the discernment, vigilance and patriotism of the Farmers of New England.

Per order of the Committee,

JOHN WELLES, *Chairman.*

REPORT.

THE Committee of the Massachusetts Society for the Promotion of Agriculture, appointed to decide on the Premiums for Sheep and Swine, offered at the Cattle Show at Brighton, report:—

That they award the premium for the best sow to John Prince, Esq. for that sow which he denominates his Essex and Blue China, 10 dollars.

The second premium to Dr. Francis Moore, of Brighton, for a sow from White's imported English breed, 5 dollars.

The premium for the best boar, of the breed denominated White's breed, mixed, to Luke Fisk, of Waltham, 10 dollars.

The premium for the second best boar, to the **Town of Cambridge*, being the Byefield mixed breed, 5 dollars.

The premium for the best store pigs, to Josiah Hovey, 10 dollars.

The premium for the second best store pigs, to James Robbins, 5 dollars.

For the premium on merino sheep, the committee regret that there was no competition, Gen. Austin being the owner of all which were offered.

The merino wethers, your committee deemed to be well entitled to the first premium, both for form and flesh, and they accordingly award it, 20 dollars.

The merino ram exhibited by General Austin, the committee did not deem to be of so superior a quality as to be entitled to the first premium, but they award the second of 10 dollars.

Your committee were of similar opinion in relation to his ewes. They therefore award the second premium of 10 dollars.

For the premium on native wethers, there was also no competition. They deem those offered by Stephen Howe,

* The said boar belonged to the poor-house establishment of that town.

worthy of a first premium, and they accordingly award it, 10 dollars.

For the Committee
JOSIAH QUINCY, *Chairman.*

REPORT.

THE Committee of the Trustees of the Massachusetts Society for the promotion of Agriculture, on the subject of inventions, report :—

That the machine called the flaxseed separator, offered by Mr. Hotchkiss, of Brattleborough, (Vermont,) embraces all the particulars specified in his statement, and is entitled to the premium proposed by the society of 20 dollars.

A washing machine was presented by Mr. Hodgdon, of Newton, for exhibition only, and not for premium, which consists of a rotatory tub, turned by a crank, operating on a horizontal block, the sides of which are planes inclined towards the centre of the tub, and doing its work chiefly by pressure, was put to trial in the family of Mr. Dudley, Innholder, Brighton, under the direction of your committee. On examination, all the persons who were experienced in such operations, and who had worked with it, and others, who had seen its effect, unanimously declared their opinion that it was the best machine for this purpose they had ever seen, and that it had done as much work in one hour, as it would have taken the same hand half a day to have performed in the ordinary way. This machine would have been entered for premium, had it not been for a misapprehension concerning our rules, for which Mr. Hodgdon is not responsible. Under the circumstances, your committee recommend to the trustees to award to Mr. Hodgdon, considering the nature of the machine, and its apparent utility, the sum of 10 dollars.

A rotatory churn, having a horizontal movement, was entered by Mr. Jennison for a premium. The only evi-

dence in relation to it was that given by Gorham Parsons, Esq. who, although favourably impressed towards it, yet preferred much the churn presented to the society by John Mackay. Under these circumstances your committee did not deem themselves authorized to award any premium.

A machine for threshing grain constructed upon a good, and as far as your committee was apprized upon a new principle, was presented by Mr. Asa Shattuck, of Pepperell. A model only of the machine was presented, so that your committee could not have the advantage of seeing its operations personally. The evidence adduced, was satisfactory, so far as it related to the trials therein specified. Your committee, however, from the evidence before them, were of opinion, that its effect was not superior to that for which a premium was formerly granted to Mr. Hotchkiss, nor did the evidence of the trials to which this machine had been subjected, amount, in the opinion of your committee, to proofs of that continued farming use, by a practical farmer, which, in their apprehension according to the promulgated rules of the trustees, would justify them in deciding that it is 'the best, the simplest, and least expensive machine for threshing wheat and other small grains.'

A machine for threshing and winnowing wheat, was presented by Mr. Gragg, of Londonderry. This machine was complete, and performed its work excellently, in both operations. It is simple, and considering its objects, not expensive, the cost complete being forty dollars, and it was said to be well calculated to thresh grain mown as well as reaped. The proprietor had however brought with him no certificates, nor had your committee any opportunity of putting it to such a trial as would justify their awarding any premium. They think so well of the machine, that they are of opinion that if the proprietor shall adduce certificates within three months of what it is capable of performing, and if said certificates shall be satisfactory to the board,

as to all the particulars stated in the published regulations, he will be entitled to the premium.

An invention was presented by Mr. Simon Willard of Roxbury, for *exhibition* only, and not for premium, being an alarum clock, every part of which was executed in his own manufactory, excepting the glass. The work was neat, elegant and simple, and well adapted for its purposes, and in every respect worthy of that ingenious and distinguished clock-maker.

A lead pipe for the conveyance of water, was also presented for *exhibition* only, by David Loring, the proprietor. The execution was neat, and as far as your committee could judge, from inspection, it would answer all the purposes specified in the advertisement of Mr. Loring, the proprietor.

There were also several other articles offered for premium, but no person being present to explain the principles or the operation of the machines, your committee deem themselves discharged from the necessity of reporting upon them particularly.

For the Committee.

JOSIAH QUINCY, *Chairman.*

Brighton, Oct. 11th, 1821.

REPORT.

THE Committee on Agricultural Experiments, to whom was also committed the inspection of several articles of Manufacture, Report:—

That four several lots or parcels of *Cheese*, of more than one year old, and twelve lots of new cheese, were offered for the Society's premiums; of the former, that from the dairy of Mr. Job Rainger, was considered to be the richest, best made, and best flavoured cheese, and is entitled to the premium of ten dollars;—that from the dairy of Mr. Elisha Matthews, the next best, and is entitled to the premium of

five dollars. Of the new cheese, that from the dairy of Mr. Daniel Hunter, was considered to be the best, and is entitled to the premium of ten dollars;—that from the dairy of Mr. Nathan Rice, the next best, and is entitled to the premium of five dollars; the whole of said cheese was made in the town of *New Braintree* in the county of Worcester.

Several parcels of *Butter* were also exhibited, all of them very fine. The lot entered by Mr. Stephen Hastings, of Sterling, in the County of Worcester, was considered to be the best made, and of good flavour, and is entitled to the premium of ten dollars;—that entered by Mr. Luke Bemis, of Watertown, the next best, and is entitled to the premium of five dollars.

A great variety of *Vegetables* was brought to the Society's Hall for exhibition. His Excellency Governor Brooks caused to be exhibited some white globe turnips, of a very superior quality, the produce of his farm in Medford. Some uncommonly fine Ruta Baga, and Carrots, were sent from the farm of Gorham Parsons, Esq.;—and from the same farm, some sweet potatoes, of a large size, and in no respect inferior to those of *Carolina*. From the farm of John Prince, Esq. some Mangel Wurtzel, and some white Russian Radishes, of a very large size. This species of the radish is cultivated in Russia for the purpose of feeding stock. Mr. Prince also sent to the Society's Hall, a specimen of Flax, of a good quality, produced and dressed on his farm in Roxbury. From the farm of E. H. Derby, Esq. some potatoes of the best possible size for the table, the growth of the present season from the shoots of the third and fourth planting of the same seed potatoes. Mr. Derby's account of four crops of potatoes, raised by him the present season, will accompany this report. From the farm of Gen. Hull, some large *Ruta Baga*, a particular account of the manner in which they were cultivated, will be communicated by Gen. Hull, to the Trustees, as soon as the crop shall have been taken from the ground.

Mr. C. C. Brown, of Watertown, exhibited some very large fine ears of ten and twelve rowed white corn. From the farm of Mr. Elijah Saunderson, in Waltham, two water melons, one of them weighing forty-two, and the other forty-seven pounds. Mr. Nathan Adams, of Medford, exhibited a large beet, a species of the Mangel Wurtzel, with some observations on its great utility as a food for milch cows.

Several specimens of sole leather, and dressed calves skins, were offered for the Society's premiums:—of the former the parcel entered by Mr. Samuel Hobbs, of Weston, was considered to be the best, and is entitled to the premium of ten dollars. Mr. Hobbs also exhibited some harness leather, of an excellent quality. The parcel of sole leather entered by Messrs. Benjamin Myrick & Co. of Roxbury, was adjudged to be the next best, and is entitled to the premium of five dollars. The calves skins entered by Mr. Nymphas Pratt, of Shrewsbury, were thought by the Committee to be the best; those entered by Mr. Thomas Prosser, of Roxbury, the next best. Several tanners and curriers, competent judges of the article, pronounced both parcels of calves skins to be dressed in a very superior manner; the former is entitled to the premium of ten dollars, and the latter to the premium of five dollars.

THOMAS L. WINTHROP, *Chairman.*

☞ The Committee on Agricultural Experiments will make an additional report early in December, before which time the evidence demanded by the Trustees, of the crops of the competitors for premiums, cannot conveniently be furnished.

ACCOUNT OF FOUR CROPS OF POTATOES RAISED IN ONE SEASON.

April 10, 1821. Planted half a bushel of late potatoes, part kidney and part round ones, cut into sets in a hot bed.

May 7. Transplanted first set of vines, as I should cabbages, and replanted the sets.

May 21. Transplanted the second set of vines, and replanted the sets.

June 5. Transplanted the third set of vines, and replanted the sets, and hoed the first and second set of plants.

June 30. Transplanted the fourth set of vines.

July 1. Commenced digging full grown potatoes from the first set of vines, since which my family (a large one) has been fully supplied, and I have lately commenced digging the fourth set of vines.

The potatoes exhibited, were taken from the third and fourth sets of vines, and there are very few small ones.

E. HERSY DERBY.

Salem, Oct. 1821.

REPORT.

THE Committee on Agricultural Experiments, submit for the considerations of the Board, the following, in addition to their Report dated the 11th day of October last, to wit:—

That Payson Williams, Esq. of Fitchburg, in the county of Worcester, is entitled to the Society's premium of twenty dollars, for having raised the greatest quantity of Potatoes, being five hundred and fifty-one and a half bushels, on one acre of land. Mr. Williams has been a successful competitor for some of the premiums offered by the Trustees, three years in succession, which must be attributed to his skill in husbsandry, and to the excellent management of his agricultural concerns. In his communication to the Committee, he states, that "he planted 24 bushels of potatoes, 3 of which were the Irish Apple, so called, imported from Liverpool, last winter, 3 the Fitchburg Whites, and the remainder the Rio de La Plata Reds.—The relative yield between the European, American, and South American, resulted in favour

of the reds of La Plata; yet in quality, for the table especially, the Irish are far superior to either, and ripen four weeks earlier than the other kinds." The entire expense of cultivating this acre of land in potatoes, including the value of the manure, was eighty-four dollars and ninety-eight cents. Mr. Williams also claims the premium of thirty dollars, for having raised the greatest quantity of Spring Wheat, on one acre. The Committee, however, did not consider him to be entitled to said premium, the quantity raised not exceeding a medium crop for Massachusetts. In his letter to the Committee, he says, "The extreme drought of the season will account for a crop of no more than twenty bushels and twelve quarts of wheat from the acre.

That Messrs. Tristram, and Henry Little, of Newbury, in the County of Essex, are entitled to the Society's premium of thirty dollars, for having raised the greatest quantity of Indian Corn, being one hundred and five bushels and six quarts of sound corn, on one acre. In their statement they say, "The seed was the eight rowed yellow corn, selected in the field, the preceding crop, from the most fruitful, thrifty stalks—four or five kernels put into each hill—the hills were four feet by three feet apart: it was hoed three times, and the vacant hills filled up the first and second hoeing by transplanting from those that had four or five stalks, calculating to have three stalks in each hill."—The entire expense of cultivating the acre, including the cost of the manure, was thirty-nine dollars. Messrs. T. & H. Little, are also entitled to the premium of twenty dollars, for having raised the greatest quantity of common English Turnips, on one acre, being seven hundred and fifty-one bushels, 'completely trimmed, fit for the market—about two hundred bushels have been sold, some of them were sold by the ton, and have been weighed, and we find that they weigh fifty-four pounds to the bushel. The land was ploughed with a horse, and a double mould board plough, in ridges three feet apart—one row was sowed on each ridge, with a machine, which took one pound

of seed, and a hand roller was made to pass over each ridge, which completed the sowing, which was on the fourth of July. When they were out of the way of the fly, they were thinned, to the distance of one foot apart, on the ridges; they were twice plouged and hoed: about the last of October they were harvested.' The entire expense of cultivating the acre, including sixteen dollars, the cost of nine cords of manure, was thirty-two dollars and thirty-three cents.

That John Prince, Esq. of Roxbury, in the County of Norfolk, is entitled to the Society's premium of twenty dollars, for having raised the greatest quantity of Mangel Wurtzel, being six hundred and forty-four bushels, on one acre. Mr. Prince says, 'The soil is a rich light loam, on a hard, gravelly bottom, on a hill descending to the South, having sixty apple trees in the above space, averaging fifteen feet high, which obliged me to have the rows directly up and down hill. The heavy rains washed, and very much injured the crop;—could they have been across, I doubt not one third more at least of roots would have been gained. The entire expense of cultivating the acre, including forty-six dollars for twenty-three loads of compost manure, was sixty-nine dollars and seventy-five cents, being 10¾ cents per bushel, of fifty-six pounds weight; from which must be deduced a large quantity of thinnings during the season, and also of leaves at the time of harvesting. Having succeeded perfectly in perserving my roots in the ground last winter, as published in the Repository, No. 3, volume 6, I have this year deposited, in precisely the same manner, most of the above crop, and also about four hundred and fifty bushels of Ruta Baga.'

That E. Hersy Derby, Esq. of Salem, in the County of Essex, is entitled to the Society's premium of twenty dollars, for having raised the greatest quantity of Cabbages, being forty-three tons, nineteen hundred and ten pounds, weight, on an acre.

Mr. Derby is also entitled to the premium of thirty dollars, for having raised the greatest quantity of Vegetables, (grain

peas and beans excepted) for winter comsumption of the stock on his own farm. It will be seen by the certificates produced by Mr. Derby, and which accompany this report, that he raised the last season on his farm, 749 bushels of Mangel Wurtzel, 530 bushels of Carrots, 526 bushels of Swedish Turnips, 1288 bushels of Potatoes, 126 bushels of Russian Radishes, 757 bushels of common English Turnips, 43 tons and 19 hundred weight of Cabbages, and 15 ox cart loads of Pumpkins.

That Mr. David Little, of Newbury, in the County of Essex, is entitled to the Society's premium of twenty dollars, for having raised the greatest quantity of Ruta Baga, being six hundred and eighty-eight bushels, on one acre. 'The seed was sowed on the 12th and 13th of June, one on each ridge, which took 3-4ths a pound of seed, and covered with a light harrow, drawn by a horse, lengthways of the rows. July 5th, commenced ploughing between the rows, hoed and thinned them to the distance of about 10 or 12 inches. They were twice hoed and ploughed; the 8th day of November commenced harvesting;—six men and four boys pulled and trimmed off the tops fit for the market, in five hours; they were then measured—the product was six hundred and eighty-eight bushels.' The entire expense of cultivating the acre, including the cost of four cords of manure, was twenty-three dollars seventy-nine cents. Mr. Little also raised five hundred and thirty bushels of common Beets on one acre.

That Mr. William Mears, of Marblehead, is entitled to the Society's premium of twenty dollars, for having raised the greatest quantity of white Beans, being thirty-two bushels and four quarts, on one acre.

That Thomas Shepherd, Esq. of Northampton, in the County of Hampshire, claimed the Society's premium of thirty dollars, for making the most satisfactory experiment to ascertain the best mode of raising Indian Corn; having raised sixty-one bushels and twelve quarts of corn, and one

hundred and sixty bushels of ruta baga, on one acre. In his letter to the Committee, Mr. Shepherd makes the following statement:—'the acre was sowed in alternate rows of corn, and ruta baga, the corn rows being eight feet apart. The whole field of nearly twenty acres, except the acre that produced eighty-seven bushels and $\frac{24}{32}$ was sowed in rows eight feet apart; and the half acre, which yielded sixty-one bushels and twelve quarts was not better than a fair average of the field. It is my belief, that seventy-five bushels of corn, and three or four hundred bushels of ruta baga, (or two or three hundred bushels of potatoes,) can be raised on one acre of good rich ground, cultivated in this way; but the corn must be sowed very thick in rows, eight feet apart, and the ditch well filled with fine mellow earth, and plenty of manure; nor is it an expensive mode of culture, considering the great crop to be obtained. The cross ploughing and furrowing is extra work; but this it is, with the aid of the harrow, that makes the great crop, if sowed in wide rows, as my experiment this year proves, having got at the rate of one hundred and twenty-two bushels and $\frac{24}{32}$ to the acre, in this way; and in the narrow rows, with more exhaustion of the land, only eighty-seven and $\frac{24}{32}$ bushels.' Your Committee have not awarded to Mr. Shepherd the premium claimed by him. The width of the rows, as recommended, favours unquestionably very much the growth of the corn; and the crop, taking into the calculation the ground actually occupied by it, was certainly very great; still your Committee are not convinced that Mr. Shepherd is entitled to the premium for making the most satisfactory experiment for ascertaining the best mode of raising Indian corn. Much praise is due to Mr. Shepherd, for the extensive and correct manner in which he has, for several years past, cultivated one of the finest farms in New-England. Mr. Shepherd also claims the Society's premium of thirty dollars, for introducing a grass

superior to any before cultivated in this State, which your Commitee would most gladly award to him, could they, after due consideration, believe him to be entitled to it; but from their own observation, and the best information they have been able to obtain, they entertain doubts if the clover supposed by him to be altogether a new one, be such. 'The stalk,' says Mr. Shepherd, in his letter to the Committee, 'is very small, and when ready to cut for hay, the whole field looks like a cherry tree fully ripe. It never lodges; and nothing can exceed the beauty of the field when in full blossom; it is short and does not yield, the first cutting, so great a burthen as the common clover, but in a season much more; it will remain in the ground, and yield a crop the third year, but perhaps it seeds itself partly, it will do two years. Being satisfied that the second crop would give seed before the frost set in, I have this year made the second trial, with the most complete success, having obtained from the rowen clover nearly two hundred pounds of seed to the acre.' It is understood by your Committee to be the general practice with the farmers in the states of Connecticut, New-Hampshire, and some parts of Massachusetts, to procure their seed from the second crop of red clover. In Pennsylvania, says Dr. Mease, in his Domestic Encyclopedia, the pratense, or common red clover, annually produces three or four crops for two years at least; the seed is collected both from the first and second crop, but principally from the former. Mr. Eliot wrote his Treatise on Husbandry, a work held in high reputation by all agriculturists, more than seventy years ago; he says, land in good heart will bear two crops of clover in a season, and recommends saving the second crop for seed.

Claims for premiums were also exhibited to your committee by Thomas Shepherd, Esq. for having raised eighty-seven bushels and three-fourths of a bushel of Indian corn, on one acre. Col. Samuel Wright, of Westford, in the

County of Middlesex, for having raised seventy eight bushels and five quarts of Indian corn, on one acre. Mr. John Dwinell, of Salem, for having raised five hundred and twenty bushels of carrots on one acre; and on the like quantity of land, five hundred and eighteen and a half bushels of potatoes. And John Prince, Esq. for having raised the greatest quantity of vegetables, (grain, peas and beans excepted,) for winter consumption of the stock on his own farm.

For raising the greatest quantity of parsnips, common beets, onions, and dry peas, for proving by actual experiment, the best season, and mode of laying down lands to the grass, whether Spring, Summer, or Fall seeding, be preferable, and with or without grain, on different soils; for soiling cattle; for turning in green crops as a manure; for the greatest quantity of good honey, and superior skill in the management of bees; for the best mode of rearing, feeding, and fattening neat cattle; for the best superfine flour, manufactured in the State of Massachusetts, from wheat raised in this State, no claims for premiums were made; these several objects are of great importance to the Agriculturists of this Commonwealth, and deserve, and the Committee hope will have their attention, in the coming year.

By order of the Committee,
THOMAS L. WINTHROP, *Chairman.*

Boston, Dec. 22d, 1821.

Newbury, November 14, 1821.

[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMAN,

THE following is a statement of the production of one acre of land cultivated with Indian corn, by the subscribers

on our farm in Newbury in 1820, and 1821, the soil is a dark clay loam. In 1820, one third of the land was cultivated with flax, and manured with night soil, and it gave us a handsome crop, the other two thirds was planted with corn and manured with six cord of compost manure to the acre, it gave us one hundred and three and a half bushels to the acre. In April, 1821, ploughed and cross-ploughed again about the 20th of May, the twenty-fourth it was planted in the following manner, in hills four feet by three apart and the manure put in the hill at the rate of six cord to the acre, the manure was made in the barn yard the preceding year, and drawn on to the land in the fall 1820, the seed was the eight rowed yellow corn, selected in the field the preceding crop from the most fruitful thrifty stalk, there was four or five kernels put in each hill, it was hoed three times, and the vacant hills filled up the first and second hoeing by transplanting from those that had four or five stalks, calculating to have three stalks in each hill. One half pint of ashes was put on each hill in every alternate row after the first hoeing, but we saw no advantage by so doing, the stalks were topped about the 20th of September, and the 20th of October, the crop was harvested and measured, and there were two hundred and ten bushels in the ear, and a fraction over, which fraction was shelled, which made six quarts, there was a number of bushels of ears shelled, and found that two bushels in the ear would make one in the kernel, that we had one hundred and five bushels and six quarts of sound corn.

EXPENSES.

Rent of the land,	$9 00
Ploughing twice over,	3 00
Manure,	12 00
Drawing the manure, and planting,	8 00
Hoeing three times,	3 00
Harvesting,	4 00
	$39 00

The stalk or stover, we value equal to one and a half ton of English hay.

TRISTRAM LITTLE,
HENRY LITTLE, *Owners.*

This may certify that I have assisted in harvesting and measuring the above crop of corn, and there was one hundred and five bushels and six quarts. JOHN SMITH.

This may certify that I have measured the above acre of land planted with corn, to the best of my skill and judgment, and there is one acre and no more.

SILAS MOODY, *Surveyor.*

ESSEX, ss. *November 26th*, 1821.

Then the above named Tristram Little, Henry Little, John Smith, and Silas Moody, made solemn oath, to the truth of the above certificates by them several signed, before me.

EBENEZER MARCH, *Justice Peace.*

Newbury, November 14, 1821.

[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMEN,

THE following is a statement of the production of one acre of land cultivated with the common English turnip on our farm in Newbury the present year, the soil is a clay loam and has been down to grass five or six years, in 1820, cut about one ton of hay, the present season cut sixteen hundred; after the hay was off the ground, which was the 1st of July, the land was ploughed, nine inches deep, eight cords of manure was spread on, and the land well harrowed, the manure was a compost about three quarters marsh sod (from the ditches on the salt marshes,) and the remainder was made by the cattle and sheep, &c. well mixed. The land then was ploughed with a horse and double mould

board plough, in ridges three feet apart, one row was sowed on each ridge with a machine, which took one pound of seed and a small hand roller was made to pass on each ridge, which completed the sowing, which was the 4th of July, when they were out of the way of the fly, they were thinned to the distance of one foot apart on the ridges, and they were twice ploughed and hoed about the last of October they were harvested and measured, the produce was seven hundred and fifty-one bushels, completely trimmed fit for the market, about two hundred bushels have been sold, some of them sold by the ton, and have been weighed, and we find that they weigh fifty-four pounds to the bushel.

Yours, Respectfully,

TRISTRAM LITTLE.
HENRY LITTLE.

EXPENSES.

Ploughing and harrowing,	$4 00
Manure,	16 00
Seed,	50
Ridging the land and sowing,	1 50
Thinning,	2 67
Hoeing,	2 33
Harvesting,	5 33
	$32 33

This may certify that I have measured and staked off the above land cultivated with turnips, to the best of my skill and judgment, and there is one acre and no more.

SILAS MOODY.

This may certify that I assisted in harvesting the above stated crop of turnips, and there was seven hundred and fifty one bushels.

JOHN SMITH.

ESSEX, ss. *November* 26, 1821.

Then the above named Tristram Little, Henry Little, Silas Moody, and John Smith, made solemn oath to the truth of the above certificates by them severally signed, before me,

EBENEZER MARCH, *Justice Peace.*

Fitchburg, November 12, 1821.

[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMEN,

I AGAIN trouble you with an acçount of the product of one acre of potatoes cultivated by me the present year, and entered at Brighton, in conformity to your rules.

The land from which the crop was taken, is situated on the top of a very heavy swell or hill, the soil a deep, dark loam, which has probably been under cultivation for forty or fifty years.

In the June, of 1820, broke the ground, turning under a good crop of English grass, which was left to ferment during that summer and in the spring of 1821, after spreading on twenty-six buck loads of manure of thirty-three bushels each, on a part of the field (the manure made by neat cattle during last winter,) was cross-ploughed and harrowed, then struck the furrows three feet apart both ways at right angles, and on the remaining part put fourteen bucks of sheep litter in the holes at the intersection. The potatoes planted between the twenty-third and twenty-ninth of May. The seed used was twenty-four bushels; three of which was the Irish apple, (so called,) imported from Liverpool last winter, three of the Fitchburgh whites, and the remainder the Rio-de-la-Plata reds.

1st. Having performed 18th and 19th June, 2d, do. 25th and 26th after which in July, the weeds were eradicated by the hand hoe. On harvesting the crop in October, found five hundred and fifty-one and a half bushels to the acre. I would here observe that the relative *yield*, between the European, American, and South American, resulted in favour of the reds of La-Plata, yet in quality (for the table especially,) the Irish are far superior to either, and if we take into view their *earliness*, (getting ripe at least four

weeks sooner than the other kinds,) their cultivation in this country must be advantageous, particularly so to the farmers in the immediate vicinity of our cities and large towns whose opulent inhabitants are ever ready to pay *roundly* for the luxuries of the table. The product from three bushels, of the Irish potatoe (cut in the usual way) was forty bushels which no doubt would have been much greater, had the seed not have vegetated on ship-board so much; a circumstance probably not to be avoided in their transportation across the Atlantic. The next year this potatoe will have a fair *trial*, what I shall not plant will be disposed of at a reasonable price for the like purpose.

PAYSON WILLIAMS, *Owner.*
AARON BIXBY, *Assistant.*

EXPENSES.

Breaking up the ground, five cattle and two men, one day,	$4 00
Plough for one day,	0 75
Cross ploughing,	2 50
Plough for do.	0 50
Harrowing and furrowing,	2 00
Forty loads manure, at one dollar,	40 00
Twenty-bushels potatoes for seed at 25 cents,	6 00
Whole expence of getting out the manure and planting,	9 00
Expence of hoeing,	7 50
Nineteen days work havesting, at sixty-seven cents,	12 73
	$84 98

WORCESTER ss. *November* 15, 1821.

Personally appeared, Payson Williams, and Aaron Bixby, and severally made oath, that the above communication, by them respectively subscribed, contains the truth, before me,

CALVIN WILLARD, *Justice Peace.*

Roxbury, November 30, 1821.

[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMEN,

I HAVE this year raised a crop of Mangel Wurtzel, of which I now give you the result. The land was a grass in the spring of 1820, it was broke up early and sown with oats, which were cut in the milk and estimated near two tons to the acre; a very light dressing of compost manure was then given and lightly ploughed in, and was then sown with the common Turnips in rows, and produced a tolerable crop. In April and early in May this year, it was twice ploughed and harrowed, when twenty-three ox cart bucks of good compost manure, was dropped in the forrows made by the double mould board plough two feet and a half apart and covered by the same, and the seed sown by the fingers on the ridge (after flattening) at about six inches apart on the 15th and 16th May. The 8th June, they were hand and horse hoed, and the extra plants thinned out and weeded. The 22d June, some vacancies were filled up by transplanting. The 28th June again earthed up by the double moulded plough, and again on the 17th August; no more labour was bestowed, (except thinning out so as to have the plants about one foot apart, which were given daily to the hogs for a considerable time.) The 22d and 23d of October, they were all gathered, when the amount of crop was found to be 586 baskets, each of which would contain 1¼ bushel of Potatoes. One cart load of 26 baskets, I weighed myself, and found the net average to be 62¾ pounds, making 36771 pounds; at 56 pounds per bushel is 656½ bushels on one acre and 3 rods, or 644 bushels per acre. The soil is a rich light loam on a hard gravelly bottom, on a hill descending to the south, having 60 apple trees in the above space, averaging fifteen feet high, which obliged me to have the rows directly up and down hill, the heavy rains washed and very much injured

the crop. Could they have been across. I doubt not one-third more at least of roots would have been gained, the expence as follows:

21½ days work of men, at	- -	85 cts.	- - $18 27
4¼ " " " boy, "	- -	54 "	- - 2 30
3 " " " oxen, "	- -	85 "	- - 2 55
¾ " " " horse, "	- -	85 "	- - 63
23 loads compost manure worth	-	-	- - 28 46
			$69 75

Cost 10¾ cents a bushel of 56 pounds, besides a large quantity of thinnings, during the season, and also of leaves at the time of harvesting; having succeeded perfectly in preserving my roots in the gound last winter, as published in in the Repository, No. 3, vol. 6. I have this year deposited in precisely the same manner, most of the above crop, and also about 450 bushels of Ruta Baga.

It seems hardly fair that *all* the cost of manure should be charged to this crop, deducting one half the value thereof, presuming that the field must be at least so much benefited; the actual cost of the roots would then be little more than seven cents a bushel.

I am gentlemen, with respect, &c.

JOHN PRINCE.

We the subscribers hereby certify and declare, that we have worked on the farm of John Prince, Esq. during the whole of the past summer, that we assisted in the cultivation of a piece of ground with Mangel Wurtzel, that we have seen the statement above, made by Mr. Prince, of the culture thereof, and the produce, and hereby attest to the accuracy thereof.

EPHRAIM DOWNES.
MIKEL HENRY.

NORFOLK, ss. *Roxbury, November* 30, 1821.

Then the above named John Prince, Ephraim Downes and Mikel Henry, appeared and solemly swore to the truth of the above by them signed, before me,

JOHN PARKER, *Justice Peace.*

Roxbury, October 16, 1821.

I Mather Withington, of Dorchester, a sworn surveyor having been requested therefor by John Prince, Esq. of said Roxbury, hereby certify, that I have this day, surveyed a piece of ground on which he now has a crop of Mangel Wurtzel growing, and find it to measure one acre and three rods, there are also growing on said ground near sixty apple trees of twelve to eighteen feet high.

MATHER WITHINGTON, *Surveyor.*

Salem, November 30, 1821.

DEAR SIR,

I have raised the present season the following quantity of vegetables, the most of which I expect to consume in the winter, feeding my stock on the farm.

	3200	early cabbages,	at	4 1-2	lbs.	14400	lbs.	or	tons	6	8	2 8
29 loads	6144	Savoys, -	"	5 3-4	"	35328	"	"	"	15	15	1 20
23 "	4873	drum heads,	"	10	"	48730	"	"	"	21	15	0 10
									Tons.	43	19	0 10

Cabbages, at 56 pounds per bushel, - - -	1758
Pumpkins, 15 Ox cart loads, - - - - -	750
Potatoes, - - - - - - - -	1288
Beets and Mangel Wurtzel, - - - - -	749
Carrots, - - - - - - - -	530
Swedish Turnips, - - - - - - -	526
Russian Radish, - - - - - -	126
English Turnips, - - - - - - -	757
Bushels,	6484

The work of my farm has been so blended, I find it extremely difficult to ascertain the exact cost of each kind of vegetable, having been favoured this year with a good set of men, and allowing little or no spirit, but plenty of good beer, I think I can state they have been all raised at a moderate

expense. The cabbages at the best, the English turnips the next, and the carrots by far the greatest expense.

Having two large barn cellars, I have put a large portion of the roots into them. Most of the Swedish and common turnips ; I have placed on the barn floors, and covered them with salt hay, which mode answered perfectly the last season. For the cabbages I have selected one of the most airy situations on the farm, spread a few leaves on the ground to keep them clean, and placed them upside down, close to each other, and shook in among them leaves sufficient to cover them, leaving part of the roots projecting out, then threw on just enough sea weed to prevent the leaves blowing away. I adopted this course two years since, and kept them in fine order until 15th of April. I am indebted to Cobbett for this mode of preserving the cabbages. My store pigs have been kept for the last three months upon boiled cabbage mixed with bran and water, and fomented for 24 hours, and are all in fine order. I am sir, yours, &c.

E. HERSY DERBY.

THOMAS L. WINTHROP, ESQ.
Chairman of the Committee on Agricultural Experiments.

We certify that we were employed by E. Hersy Derby, in taking up, securing and keeping an account of the vegetables raised by him except the summer cabbages, and the quantity stated by Mr. Derby, we know to be correct.

DAVID G. CROMBIE,
HEMAN GIBBS.

ESSEX, ss. *Salem, December* 11, 1821.

Then David G. Grombie and Heman Gibbs, personally appeared and severally made oath that the affidavit by them above subscribed was true, before

JONATHAN P. SAUNDERS, *Justice Peace.*

Salem, November 30th, 1821.

DEAR SIR,

The ground on which the cabbages were raised is a moist loamy soil, rather shallow, upon a substratum of clay. It

produced a very good crop of potatoes the last year with a moderate dressing of manure, was twice ploughed this spring and eleven loads of leached ashes and the same quantity of burnt clay from the Salem labratory were spread before the second ploughing. The seed was sown 26th of May, and began transplanting 23d of June. The savoys were set in squares two feet, by two, the drumheads a little farther apart, and both were hand hoed three times during their growth. Commenced taken them up 19th, and finished 24th of November, had they been pulled the first of the month I have no doubt there would have been over forty tons, as a great many of the outer leaves had fallen before they were weighed. I am, Sir,

Yours, with respect,
E. HERSY DERBY.

THOMAS L. WINTHROP, Esq.
Chairman of the Committee on Agricultural Experiments.

Newbury, November 29, 1821.

[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMEN,

THE following is a statement of the produce of an acre of land cultivated with Ruta Baga, on my farm in Newbury, the past and present year, the soil is a dark loam on a gravel bottom, cultivated with potatoes in the year 1820, it was broken up in the fall of the year 1819, and in the spring following, it was ploughed across the furrows and harrowed, then furrowed in squares, of about three feet, about four cords of manure from the sheep yard was put into the squares and the potatoes put upon the dung, the crop very small owing in a great measure to its being injured by a large red headed worm, (commonly known by the name of the dung worm,) in May 1821, the land was ploughed eight or nine inches deep and harrowed, June 12th, furrowed the ground deep three feet apart and put four cords of compost

manure into the furrows, about half was from bogs, the remainder was from the sheep and cattle, the dung was then covered by turning a ridge upon it, a harrow then was drawn by a horse length ways of the ridges, the seed was then sowed the 12th, and 18th of June, one row on each ridge which took three-fourths of a pound of seed, and covered it with a light harrow, drawn by a horse length ways of the rows, July 5th, commenced ploughing betwixt the rows, then howed and thinned them to the distance of about ten or twelve inches, they were twice ploughed and hoed, the 8th of November, commenced harvesting, six men and four small boys pulled and trimmed off the tops fit for the market in five hours, they were then measured, the product was six hundred and eighty eight bushels, two cart loads of the average size, containing forty-six bushels each, and one cart load of a smaller size, containing forty-five bushels have been weighed, at the scales by the weigher and his certificate of the three loads weighed is annexed to this. I have also cultivated one acre of beets the present year, for which I entered my name for premium, but as my crop falls short, amounting only to about five hundred and thirty or forty bushels I conclude that my mode of culture will add nothing to the stock of general knowledge, therefore I wish to be excused from making a particular statement on that subject.

I am yours,
with great respect,
DAVID LITTLE.

Statement of expense of cultivating one acre of Ruta Baga on the above plan, calculating labour at four shilings per day.

Ploughing and harrowing,	$2 00
Four cords of manure,	12 00
Three fourths of a pound of seed,	1 12½
Furrowing, ridging and sowing,	1 33
Ploughing, thining and hoeing,	4 67
Harvesting,	2 67
	$23 79½

I hereby certify that at the request of David Little, I measured a piece of land on his farm, and set off therefrom one acre, having ruta baga thereon.

TRISTRAM LITTLE.

This may certify that I assisted in harvesting and measuring the above crop, and the produce was six hundred and eighty eight bushels.

RICHARD STICKNEY.

ESSEX, ss. *November* 30, 1821.

Then the within named David Little, Tristram Little, and Richard Stickney, made solemn oath to the truth of the several certificates, within written, and by them respectively subscribed, before me.

EBENEZER MARCH, *Justice Peace.*

I hereby certify that I weighed three loads of Ruta Baga, for Captain David Little, which weighed as follows.

	cwt.	qrs.	lb.
1821, November, 8th, first load,	22	0	00
This load smaller size, do. second load.	18	3	00
November 9th, third load,	21	0	20

EZRA HALE.

Salem, September 7, 1821.

[To the Trustees of the Massachusetts Agricultural Society.]

THE subscriber in support of a claim heretofore entered for the Society's premium for raising the greatest crop of beans, offers the following statement of the manner &c. of cultivating the lot, its situation and amount of crop.

The lot is part of a farm owned by Messrs. N. and J. Hooper, situated near the boundary line of the towns of Lynn, and Salem, has been broken up for about four years, the present year was dressed with about ten load, (one yoke of oxen) of barn manure, ploughed and sowed in usual way,

after crop was up, the rows were harrowed once, with horse harrow and hoed, and once after that, the weeds were cleaned by hand, the sowing was about 10th of May and gathered about 20th August, and the whole amount of crop was thirty-four bushels and twelve quarts of clean beans.

Respectfully, &c.

WILLIAM MEARS.

We hereby certify that the statement made within, by Mr. William Mears is correct, that we were present at the measuring of the crop of beans raised on said lot, and that the same was thirty-four bushels and twelve quarts.

WILLIAM HATHAWAY.
DANIEL BUTLER.

ESSEX, ss. *December* 21, 1821.

Then William Hathaway, and Daniel Butler, made oath that the statement and affidavit by them above subscribed, was true. Before

JONATHAN P. SAUNDERS, *Justice Peace.*

[We insert the following letter of Anthony Dey, Esq. *entire*, both on account of the interesting nature of the topicks therein discussed, and the clearness with which the facts are detailed.

We have not thought we had a right without his permission to separate it, or else in conformity to our general rule we should not have inserted *that part* which relates to his own machine for cleaning flax, and which it is manifest he thinks *superiour* to Hill and Bundy's, which has made so much noise in Europe. It may be so, and we hope it will so prove; and we are ready to give Mr. Dey all the advantage to which his enterprize and skill entitle him by announcing the progress he has made, but we beg it to be understood, that no opinion is expressed by the editors of this work on the subject. Time, the best critic on human arts and inventions, will decide its fate. We wish complete success to the undertaking.

EDITORS.]

New-York, December 1, 1821.

SIR,

IN pursuance of the promise made you, I will endeavour to give an account of my operations in relation to flax.

The land on which I cultivated about sixty acres of flax, the present year, is reclaimed salt mash adjoining the Passaick River opposite the town of Newark, in the State of New-Jersey. The three preceding years I had put it out on shares and deriving little or no advantage from it, I determined about a year ago, to dispose of it. The tenant had not cleaned the ditches during that time, and it may be said truly, it was in a very unpromising condition to raise a crop of flax. Flax among our farmers had been very little cultivated, although the crop is considered generally as sure, as any other in husbandry, yet the risk and labour of rotting and cleaning was such, that it was only raised in small quantities and then from necessity to supply the farmers wants. I had never cultivated it upon my farm or turned my thoughts towards it, until about the close of the last year, when I saw a sample of beautiful flax resembling floss silk, the plant of which had been dressed in an unrotted state, in a machine invented by Messrs. Hill and Bundy of London, or one of them, and reduced to its beautiful state by some chemical process.

My attention was immediately turned to the subject, *first*, to ascertain if my land was adapted to the cultivation of flax, and *secondly*, as to the profits to be derived therefrom. I did not apprehend at the time there would be the least difficulty in procuring from England the machines and a knowledge of the mode of preparation to bring the flax into its beautiful white state.

I soon became satisfied that my land *was good* for raising flax or hemp, if properly managed; and after estimating the expense, and the probable result, I determined it *was profitable*. And if it was profitable on a small scale, it was also on a large one, and therefore I not only determined and entered into a contract to have sixty acres of my own land laid down in flax, but I contracted with several farmers to the extent of about forty acres more, the plant of which they were to deliver me as it came from the field at the rate of eight *dollars* per. ton, (under the expectation

that the land would yield three tons to the acre.) Thus you see I stood committed for about one hundred acres of flax.

My examination had satisfied me, that in England *two bushels* of seed was considered the best quantity to be sown on an acre of land, if the object was to cultivate *for flax*; if *for seed*, which heretofore has been the great object in this country, a much less quantity. I enquired of every practical farmer, that came in my way, but I lament to say, I found not one, who had ever made an actual experiment with flax, to test the result, and the most I could obtain was, that some had sown a half bushel of seed and some three pecks, and it had produced about so many bushels of seed and so many pounds of flax, in one year, and about another quantity in another year, but as to the quantity of land they knew not, nor the quantity of flax by actual weight. It had been sown in broad cast and it depended therefore very much upon the length of the sowers legs and the manner of using them, whether a greater or less quantity of land was sown. One important item I did ascertain, namely, never to sow the seed on the same soil it was raised on, but to change it.

These circumstances determined me to make an experiment and observation upon every measure I pursued, that I might test the result, and compare with others, who like myself might unknown to each other be pursuing a like course. I found various opinions as to what seed was best, I therefore determined to take five different kinds, namely, (1) Rhode Island, (2) from the country north or west of Albany, (3) from Queens County, on Long Island, (4) from the town of Bergen, in New-Jersey, and (5) also, seed from Essex County in the same state. I began to sow on the 30th of March, and continued to sow every week until the last week in May. My land was intersected with ditches and divided into small lots from two to five acres each, and the day of the month and the kinds of seed sown

was carefully noted, that I might be able to judge which was the best time to sow, and the best seed.

The flax sown on the 31st of March, was about two inches high when the severe snow and hail storm of the 17th and 18th of April, last took place. I expected it would have been destroyed, but it was not, and yielded on weighing each and every load that came from it, a little more than one ton of the plant or stem to the acre. I considered it my worst lot, my best lot was sown the last week in April, upon a green sward and harrowed well, it yielded a little less than two tons to the acre. I impute this difference, principally to the circumstance of the storm on the first lot, which retarded its growth and gave the weeds an opportunity to struggle with the plant, and to the almost total absence of the weeds on the *green sward.* The whole crop averaged about one and a half tons to the acre.

I cannot say, that I perceived any difference arising from the kind of seed sown, but the time when sowed is important, in my District of country, I consider any time from the 20th of April, to the 10th of May, the best time. All the seed was foreign to my soil. It was all choice seed of its kind and had been selected, and cleaned by the seed merchant in New-York, and set apart by him to sell to the farmers for seed, *except* one single parcel of seed from Essex County which was not so. That seed was foul having a considerable quantity of milberry as it is called in England, or as it is sometimes called with us negro head. I remark in order to show the necessity and importance of having clean seed. That one of my friends whom I had prevailed upon to sow ten acres, lost his whole crop that was completely destroyed by the milberry, it entwins itself around the flax plants and completely brings them down to the earth. If he had taken the trouble of sending to the city of New-York and obtained clean seed it would not have happened.

A gentleman from Columbia County, in this State, informed me, he found it necessary to change his seed every

year, and he found the seed raised on land near the sea, better than what was raised north or west of him. That in two years his flax would degenerate so much as to make the crop scarcely worth pulling. I have now a hank of flax sent me from Minisink, a town in Orange County, it was prepared and cleaned in the old way, and measures 4 feet in length as dressed, and is of a fine quality. It is called sapling flax, and produced 900 weight of clean flax, (as is said) to the acre. I have sent to procure a quantity of the seed at any price, that I may cultivate it for the seed.

One of my lots was sown in the morning of Saturday, the the 19th of May, there was a shower in the afternoon, and on Monday morning the flax was bursting through the earth, throughout the lot. It was a fine lot of flax, free from weeds, but according to my judgment and that of my farmer, the best lots of flax, as I have before observed, were those that had been sown between the 20th of April and the 10th of May, and there was no perceivable difference between them.

As I sowed two bushels of seed to the acre, with a view to a crop of flax and not seed, so I pulled my flax as it was passing from the blossom to the boll. The seed was not yet formed, the boll was in milk, but it will nevertheless yield from 4 to 5 bushels seed to the acre, fit for crushing or feeding.

I would recommend, if the farmer cultivates for flax, to sow two bushels to the acre, and to set apart one or more acres for seed, to sow 3 pecks to the acre; from all the information I have been able to obtain, that is the best quantity to be sown, if you cultivate for seed, but the flax when dressed will be too coarse to make fine linen, and cannot be made as white by my process of bleaching.

As I contracted for all my flax concern, I paid at the following rate, namely:

For ploughing, harrowing and sowing seed per acre,	3
For two bushels of seed per acre, - - -	3
For pulling and spreading on the ground per acre,	3
For drying, bundling and carting *to the barn*, -	$1 50
	$10 50

where my flax now remains until my machine can be set in motion by horse or ox power, which I hope will be before January next.

In the month of February or March last, I learned that it was impossible to obtain the English Machines, the British government had refused, on the application of Mr. Rush, the American Minister, to let them come. I then directed my attention to having them made in imitation of the English Machines, as represented in the 8th number of the Journal of Arts and Sciences, published in London, and republished in New-York, by Mr. Eastburn. I employed two persons in this city, who undertook to make them, warranted good, and after keeping me in suspense until August last, produced at length, a Breaker and Rubber, for which I paid them $200, which are literally good for nothing. At the time these machines were about to be delivered, I employed Mr. James Macdonald, to set them, together with others I contemplated to have made, in operation, by animal power, but finding them as I have before mentioned, useless, I threw them aside and employed Mr. Macdonald to make me one on an entire new plan. This has succeeded to my wishes, and a Certificate given me by several gentlemen who saw the machine operate is as follows:

CERTIFICATE.

"We were present at a trial made of a newly invented machine, made for dressing flax or hemp in an unrotted or unretted state, belonging to Messrs. Anthony Dey and James Macdonald of this city. The machine is constructed to go by water or animal power, but on the trial was worked with facility by four men; one of the subscribers held a watch by which it was ascertained, that three ordinary lengths of flax plant, *unrotted*, were carried completely through the machine in less than one minute, and three lengths of hemp through in a little more than one minute. It is estimated that when driven by the proper power, the machine will clean one ton of flax plant or hemp, rotted or unrotted, in a day, and Mr.

Day exhibited and gave each of us a sample of flax in a fine beautiful white state, resembling floss silk, which he estimates, from the experiment he has made, may be cleaned through the machine and reduced to its beautiful state for about two cents a pound, and informed us that in doing it, he did not make use of any other preparation, than is to be found in every farmer's house in abundance, and which was done after the flax had passed through the machine. New-York, November 1821.—T. L. Ogden, David B. Ogden, Richard Varick, Rudolph Bunner, Lekay de Chaumont, George Brinkerhoff, Benjamin L. Swan, George Griswold.

An opinion has gone abroad, that this machine is nothing more or less than a copy of Hill and Bundy's machine—the following affidavit, independent of one moment's view of the machine, will satisfy every person I hope to the contrary.

AFFIDAVIT.

William Wright, at present of the city of New-York, millwright and machine maker, being duly sworn according to law did depose and say, That in the Year of our Lord, 1817, and part of the year 1818, he resided, in Rathbone place, in the city of London, and worked at No. 422, Oxford-street London, part of the time aforesaid he was employed in making the breaker and rubber of Hill and Bundy's flax machine; that in the year 1819, he left England, and went to the city of Philadelphia, in the State of Pennsylvania, that in the month of October last, he came to the city of New-York, and has been employed under the direction of James Macdonald, in *finishing* a hemp and flax dressing machine for Anthony Dey: that having made many of Hill and Bundy's machines, he is enabled to say, that the one constructed by Mr. Macdonald for Mr. Dey, is totally unlike Hill and Bundy's having nothing about it, at all like those of Hill and Bundy, and as far as he knows or believes it is unlike, in every particular, any machine he ever saw or heard of for breaking or cleaning hemp and flax."—Sworn, &c.

Signed, WM. WRIGHT.

After several experiments, I produced the sample of flax I sent to you, and which you received from General Sumner. When my patent right to this discovery is secured, I will then disclose the process. Suffice it to say, at present that the material with which it is accomplished is not only cheap, but in every farmer's house in abundance, and will in no degree, I think injure the quality of the fibre, and while Hill and Bundy's flax cost them six pence per pound sterling, equal to about 11 cents of our money, to clean and bleach, I am satisfied from the experiments I have made, that cleaning in the machine and bleaching by my process can be done for about two cents a pound. It remains for me to shew that it is *profitable* to raise flax. I know an opinion prevails that flax is an exhausting crop, and that two crops cannot be raised in succession, but I have never yet met with an individual who says he has tried it. The same 60 acres which I cultivated this year in flax, I contemplate to put, part again in flax the next season and then seed it down with grass seed, and the residue with about 40 additional acres in hemp. I shall be able then to test the principle. I do not believe that upon such strong soils as our reclaimed Marshes, we can exhaust the soil or any principle in it by the same kind of crop, in two or three successive years, *where those crops are not permitted to go to seed.*

Buckwheat is considered a great scourge when it is permitted to go to seed, but Buckwheat is sown for manure and when in blossom ploughed under. It must therefore, I think, *be the seed*, which exhausts that principle in the soil that requires a change before the crop is renewed. Admitting however that I am wrong, yet there is hardly any Farmer, that cannot prepare and set apart ten acres out of his farm annually for flax, his land should be put in good condition, for unless it is, it ought not to be sown with flax, and if in good condition will yield I think, beyond doubt, one and an half tons of plant or stem to the acre. The English calculate 3 tons to the acre, but I can only say, I think it is incorrect. There is a market at Patterson in New Jersey, to make sail cloth, and in our cities for more flax to make cor-

dage, than will be raised these five years in our country, after retaining what is required among the farmers for family purposes.

Suppose then a farmer raises ten acres of flax at one and and an half tons of plant to the acre. The owner of one of the flax and hemp machines can afford, when flax brings fifteen cents a pound, to give fifteen dollars a ton. Then 15 tons, the produce of 10 acres at $15 per ton is - - $225

DEDUCT.

At the same rate, which I paid in cash for like services, but which is done by the farmer, and therefore saved to him, viz:—

Ploughing, sowing and harrowing 10 acres at $3 -	$30
Twenty Bushels of clean seed at $1 50 - - -	30
Pulling and speading at $3 - - - - - -	30
Drying, bundling and carting to the barn, or the machine at $1 50 per acre, $15 - - - - -	105
	$120

In other words $12 per acre clear profit, and what can a farmer in these times raise to equal this?

And if he will take his flax to the machine and have it cleaned, and receive only as much as he could get in the old way, after rotting and dressing, he will receive more money.

I have been offered 25 cents per pound for my crop, which will yield me, upon a fair calculation, six thousand dollars.

I will now furnish you with an estimate of the expense and value of the machine, from which you can form an idea whether the patent right for a town or a county is worth purchasing by an enterprizing man.

It is estimated two machines will cost, including the machinery to go by horse power, $1200, and if by water, then about $1000, and that a horse or a pair of oxen, will drive two machines.

The machine is four feet wide and calculated to dress an ordinary bundle of flax weighing two pounds, at a time, and it will take through *three* lengths of such flax in in a minute. That data will furnish a much greater quantity per day, (say ten working hours,) but I have no doubt *each machine* will dress including all interruptions, *one ton* of the plant in a day. Having been obliged very hastily to take down the machine to prevent pirates from robbing us, I did not make an estimate of the yield of the flax in the manner I intend shortly to do. Hemp was tried and yielded thirty-three per cent clean fibre. I adopt therefore in the following estimate the English calculation.

One ton of plant will yield according to Mr. Millington's testimony under oath before a Committee of the British house of Commons, (see Journal of Arts and Sciences, Nos. 8 and 9. p. 32,) at the rate of twenty-five pounds of fibre, fit for the hackle or hatchel, for every hundred pounds of the flax plant.

TWO CALCULATIONS.

1. The product of twenty-five pounds of flax at ten cents, which I think is the very lowest it will ever be sold for.

Two tons, produced by two machines, at the rate of twen-five pounds for every hundred, is in pounds - 1000 lbs.
At - - - - - - - - - 10 cts.

Each days earnings of two machines is, - $100,00

DEDUCT.

Suppose you give *twenty dollars* per. ton for flax plant, say two tons at twenty dollars per ton is, - - - $40 00
Two men, four boys, and a horse or oxen, say - - - - - $5 00

—— - - 45,00

Net profits per day, - - - - - 55 00
Say three hundred working days in the year, - 3 00

Per Annum, - - - - - - $16,500 00

16,500 per annum.

According to Mr. Millington's estimate in the Journal of Arts and Sciences above referred to, No. 9, 35, nearly two thirds of the fibre is saved by the new process.

2. Suppose you clean flax for the farmers for toll, and give them more than they can get under the old system.

If nearly two thirds is saved by the new system, you can give the farmers one hundred pounds and reserve fifteen pounds out of every hundred pounds of plant for the machine, and two of those machines will dress about as much as an ordinary township will raise, and every additional machine required will be so much the more profit.

Then say, fifteen pounds of clean flax, out of every hundred pounds, in two tons of the plant is, - 600 lbs.

10 cts.

	$60 00
Deduct expences as above stated - - -	5 00
	$55 00
Say three hundred working days in the year,	- 300
	$16,500 00

say 16,500 per annum.

The machine thrashes the seed. In neither of these estimates have I included the tow, nor the benefit of the seed, nor of the boon or woody substance, (see Journal No. 9, p. 34,) which is said to be when unrotted, good food for horses, cattle, &c. I presume you are by this time pretty tired of my long story, but I cannot refrain from stating one occurrence which will speak louder than all the above calculations.

Last spring a wager was laid, as to the weight of a piece of Irish linen, the retail price of which, at the stores in this city, was twenty-five dollars. A piece was obtained and weighed six and a half pounds. Now then suppose ten pounds of flax was used and washed in making this piece of

linen, which at twenty cents per pound would make our farmers soon rich, and would cost two dollars. We pay then twenty-five dollars, to whom and for what? Let every thinking man ponder on this subject, then we shall unite heart and hand to employ our own means. We will retain our money and add to our independence.

I am, Sir, very respectfully,
Yours,
ANTHONY DEY.
Corner of Nassau and Cedar Streets.

S. W. POMEROY, ESQ.

Newton, November 28, 1821.

[To the Corresponding Secretary of the Massachusetts Agricultural Society.]

SIR,

ON the 5th day of June, of the present year, I commenced sowing an acre of Carrots on my farm in Newton, and continued until the 9th of the same month, when the sowing was finished. They were sowed in rows, three feet apart. The ground was ploughed and wed twice, between the time the carrots were sowed and the first of August; on the last mentioned day, I set out Ruta Baga plants between the rows of carrots. They were placed eighteen inches apart. Twelve days after the ruta baga plants were set out, they were slightly hoed, and the few weeds which had grown in the rows of carrots, were pulled. About the middle of September the ground was entirely covered with the leaves of the ruta baga and carrots, and remained free from weeds or grass, until the crops were gathered. The land had been planted, a part with potatoes, and a part with corn the year before. Late in the Autumn, it was ploughed into ridges, as is my practice with all land designed for cultivation the next year. The last of May, after the grass and weeds appeared, in a dry

day, the ridges were harrowed down, and a smooth surface was made. Fifteen common loads of barn yard manure was then spread on the land, and immediately covered, by ploughing ridges three feet apart, and as deep as it could be done by two strong horses. By this harrowing and ploughing, under a hot sun, all the first growth of weeds was destroyed. The ground remained in this situation, until the 5th of June, when I was ready to sow the carrots. The ridges were then split with the plough, and thrown back into the furrows, by ploughing as deep as possible with the same team, which formed the rows or ridges on which the carrots were afterwards sowed. I was careful not to form these ridges, faster than the carrots were sowed, that the seed might have the advantage of the freshness and moisture of the earth, when it was first turned up. By this means, the carrots came up in the rows, and could be distinctly seen in the field, before there was any appearance of weeds. When the seed was sowed, there was no manure of any kind put into the rows, and none made use of in any way, excepting what was spread on the land in the first instance, and immediately covered by the plough. The crop was gathered the beginning of November, and the acre yielded, three hundred and thirty three bushels of carrots, and two hundred and eighty-four bushels of ruta baga.

Being of the opinion, that the carrots were too thick on the ridges, the last week in August I commenced pulling, and thinning them for my hogs, and continued it daily, until the last of September. It is impossible for me to say what quantity was taken from the acre during this time, which was about five weeks; it was however sufficient, with only the common waste of the house, to support five large hogs, and fourteen pigs, a part two, and a part three months old. Besides, a considerable quantity was given to the horses and oxen.

They were given to the hogs, &c. without taking off the tops. This was in addition to the quantity above stated.

As it was my intention, to set out the ruta baga between the rows of carrots, I thought it better to spread the manure over the whole of the ground, than to drop it in the furrows, and cover it by turning back the ridges. In that case it would indeed have been directly under the carrots, but the ruta baga would not have had a share of it. Besides, the ground was twice thrown into ridges after the manure was spread, and consequently well mixed with the earth. By this process of ploughing, the ground was loosened, sufficiently deep for the carrots, and at least as well pulverized, as it could be done with a spade. The ridges were made as high as it was possible to make them, at the distance apart which I have mentioned. The higher they were raised, the deeper the ground is loosened, and a large surface is formed for the sun the light rains and dews to act on. If we have a dry season, it is generally, the latter part of summer, when the leaves of the carrots and ruta baga, planted in the manner I have stated entirely cover the ground. There is no doubt but a much larger quantity of carrots might be raised from the same ground, provided there was double the quantity of rows or ridges. In that case the rows would only be eighteen inches apart, and the ground could not be ploughed between the rows. It would be necessary therefore that all the labour should be done with a hoe, and by weeding. Besides, by hoeing and weeding, the ground would not be so well loosened and pulverized, as by the plough.

It may further be observed, if the rows were only eighteen inches apart, the surface of the ground must be flat, (as there would not be room for ridges,) and of course would become harder, and more unfavourable to the growth of carrots; and there would not be so great a surface for the dews, the rains, and the sun to act on, as I before mentioned.

By sowing the carrots in the manner I have stated, the ground can be ploughed as long as it is necessary, before the proper time arrives for planting the ruta baga. This ploughing perfectly prepares the ground for the ruta baga, and all the labour attending the cultivation of this latter plant, is the setting out, and once hoeing.

There is another advantage attending this mode of cultivating the ruta baga, and carrots on the same ground. The leaves of the ruta baga spread to the rows of carrots on each side. In the morning, after plentiful dews, I frequently visited the field, and observed the leaves of the ruta baga covered with water, and the dew drops gently falling on the rows of carrots. I am satisfied the ruta baga did not diminish the quantity of carrots; I left a part of three rows of carrots, in different parts of the field, where I planted no ruta baga; in these rows, the carrots were not larger, and did not produce more than the others. I have not made this communication with a view to a premium from the Society; and consequently have not furnished you with the vouchers, which would be required; my sole object is in the decline of my life, to do all in my power to promote the cause of agriculture, which I consider the basis of the prosperity and happiness of our country.

With the most perfect respect, I am,
your most obedient servant.
WILLIAM HULL.

Newton, November 3, 1821.

[To the Corresponding Secretary of the Massachusetts Agricultural Society.]

Sir,

In a former communication, I stated the manner in which I cultivated Carrots and Ruta Baga, on the same ground. An objection has been made to the cultivation of ruta baga; that when cows are fed on it, an unpleasant flavour is given to the milk, and consequently to the butter; and likewise

when beef, cattle, sheep, and hogs, are fatted on it, the beef, mutton, and pork will taste of the root.

With respect to the milk and butter, I think the difficulty may easily be removed. For a month past, I have fed my cows freely on ruta baga, and have adopted a practice, which is recommended in Skinner's American Farmer, Vol. 1. p. 60. 'Dissolve two ounces of Salt Peter in a quart of water, and before milking, put two table spoonsfull into the pail, provided the pail is to be filled.' I have fed my cows freely on the ruta baga, for more than a month past, and have adopted this practice; the milk has been entirely free from any disagreeable taste, and the butter of a fine yellow colour, and perfectly sweet. If the remedy, which I have here mentioned, should not in all cases, with respect to milk and butter be effectual; and if it be true that beef, mutton, and pork, will be effected in the manner which has been stated, there are other useful purposes to which it may be applied, without any of the inconveniences, which have been mentioned. The useful purposes, to which I refer, are, in feeding working oxen; young cattle; cows, which do not give milk; horses; and store hogs: all these animals eat this food greedily in a raw state, excepting hogs, and when boiled or steamed, my hogs eat it, with as good a relish, as they do potatoes or carrots, mixed with a very little meal, or soap boilers scraps, prepared in the same manner, as the potatoes and carrots are prepared. I have made an experiment of this kind; I have a pair of young horses, which stand in the same stable, and perform the same labour. One I fed on carrots, the other on ruta baga. They are both in good order and condition, and the one fed on the latter root, is as strong, and in every respect equal to the other. From my practice, and experience, I am satisfied, this is a very nutritious root, and well calculated for the purposes I have mentioned.

I am sensible in recommending to farmers the cultivation of articles, to which they have not been accustomed, there

is a great responsibility. Our soil and climate is well calculated for the production of corn, rye, barley, potatoes, peas, carrots, &c. which the farmers have been in the habit of cultivating. These are valuable articles and afford many comforts.

All at present that I should venture to recommend, is that the ruta baga may be added to these articles. I recommend it, because I am satisfied, from experience, there is nothing which can be cultivated on the same quantity of land, and with the same labour, more valuable. The same acre of land, which will produce forty bushels of corn, with the same manure, will, according to the observations I have made, produce at least five hundred bushels of ruta baga; this is twelve and a half bushels of the latter, for one of the former. After corn is planted, it is the usual practice to plough and hoe it three times. It is liable to be cut down by late frosts in the spring, and injured by early frosts in the Autumn, and the ploughing and hoeing is at the most busy seasons of the year.

I have been in the practice of setting out the plants, instead of sowing the seed in rows. It is not necessary to set them out, until the beginning of August. At this time it is easy to destroy all the weeds, and grass with the plough and harrow.

After plants are set out, it is only necessary to plough and hoe them once. The leaves will soon cover the ground, and prevent the growth of weeds. I think it must clearly appear, that the expence and labour of cultivating an acre of ruta baga, is not by any means as great, as that of an acre of corn. The plant is of an hardy nature, and may be set out in the dryest time. The last season, I set out a part of my field, after a rain, when the ground was moist. The other part when it was dry, and under a hot sun. The first did not wither in any degree, but grew immediately; the leaves of the other died, and it appeared to be necessary to set them out agian. I however waited a

ew days, and new leaves came out from the roots. The last when the crop was gathered, were full equal to those first planted. It is a root, which delights in a dry, loose soil, as an evidence of it, I set out a few rods of very rich ground, highly manured, with these plants, and in a situation, when I could turn water, through the rows. The tops grew rapidly, they had large long necks, but the bulbs were not as large, as those set between my rows of carrots, on a lighter soil, and which were not watered. One of my neighbours, the present year, planted half an acre on the dryest and poorest part of his farm, with no other manure but pond mud, and had about two hundred and fifty bushels. I mention these circumstances to show, that land which is unfavourable to other vegetables, seems to be favourable to this.

Newton, December 26, 1821.

[To the Corresponding Secretary of the Massachusetts Agricultural Society.]

In a letter, which I lately addressed to you, I stated the reasons, which then prevented me from communicating a stystem of irrigation, which I had adopted, and practised on my farm in Newton.

Those reasons were, that a woollen factory on the same stream below, had been established, and that the proprietors contested my right to use the water, in the manner I did for the purpose of irrigating my grounds.

Having since examined the subject with more attention, and obtained the opinion of counsel, in whose judgment, I can place the fullest confidence, I am satisfied there can be no question, with respect to my right.

I shall therefore proceed to state generally the manner, in which I have conducted the operation, the effects it has pro-

duced, and make such general observations, as the experiment has taught me.

A never failing stream, sufficiently large for a corn mill, passes in its natural course, through the easterly part of my farm, about the distance of forty rods. On the easterly side of the stream, are about six acres of land. On the westerly side, is a plain of about sixty acres from which the farm rises into hills.

Nearly where the stream first enters my land, I have repaired an ancient dam, by which the water is raised about ten feet higher than the highest part of the plain, I have mentioned. From this pond, or reservoir, I have opened a small ditch, on the east side, by which I irrigate the principal part of the land, on that side of the stream. Here is a gentle declivity, and the ditch is carried nearly as high, as the surface of the reservoir.

The great object in raising the water, was to spread it over the sixty acres laying on the west side of the stream. For this purpose, I dug a channel, about eight feet wide, from the reservoir, over the highest part of this ground, winding, and circuitous, in its course.

This channel terminates, and discharges all the surplus water, into the original channel of the stream, before it leaves my land. I found it impossible to make this main channel on ground of the same elevation. To carry the water on the highest part of this plain, I was obliged to raise the banks, in some places, as much as three or four feet. From this main channel, are a number of outlets, all made on the highest ground. At these out-lets, I have no regular gates, but make use of large, tough sods, to stop, or let out the water, as occasion may require. From these out-lets, the water runs into small ditches, made only by ploughing a furrow, observing the same rule, with these small ditches, as in the main channel, to make them on the highest part of the ground, intended to be irrigated. I think it better to make use of these sods at the out-lets, because it is attended

with much less expense than gates; and because if they are on the land, they ought to be dug up, and when they decay, they become good manure, and may be replaced by others. On ground nearly on a level, it is difficult to have too many of these small ditches. They are formed, with very trifling labour, with the plough, and the water will run from one to another, which will prevent it remaining stagnant on the grass. In this way, there is as great, and perhaps a greater advantage in irrigating ground nearly on a level, than where there is a declivity. The manure is not so liable to be washed away, and the numerous ditches, occasion no loss of land. Before the time for mowing, these ditches will be entirely covered with the most luxuriant grass, and from my observation, a larger quantity grows on the same space, near them than at a distance from them.

In this manner, the water can be spread, as occasion may require, over the whole of the field. It would be an injury, instead of a benefit, should it remain constantly on any part of the ground. To change it, nothing more is necessary, than to put down the sods, at the out-let, or out-lets, where it has been running and take them up at other places, where the water is most wanted.

Where the water first enters the main channel, from the reservoir, I have a gate, by which at any moment, I can stop the whole or any part of the water, and leave the ground irrigated perfectly dry. The main channel has a circuitous direction around my house, which affords a convenience for baths, watering my cattle, and all family purposes. During the course of three or four years, the whole of the labour, in forming these water courses has been done by the common labourers on my farm, and at times, when it could best be spared from other necessary business.

Until the last year, I avoided irrigation in the winter, I did it, in conformity to the opinions of the best writers, I had examined on the subject. Observing on the different parts of my farm, where springs, and small streams run over the

land at that season, the grass was much earlier, and continued to grow more luxuriantly. I was induced to try the experiment, and spread the water over the dry land during the whole of the winter. I am so far satisfied of the utility of it, that I shall continue the practice ; besides that water in winter is warmer than the atmosphere, a large quantity of rich sediment is carried on the land. Indeed, I am of the opinion it may be made useful at all times under proper management. This opinion however ought to be qualified, by observing, that different soils may require a different practice. If the ground is of such a nature, that it heaves by the frost, in such a manner that the water will not run over its surface, it will do an injury instead of a benefit. As I before observed, it is impossible on this subject to lay down any general principles, which will apply in all cases.

No general plan can be pointed out, without some exceptions ; very much will depend on the situation of the ground, and other circumstances. Near the reservoir of water, where the dam is erected, should be a gate in the main channel, where all the water can be stopped, and turned down the original channel of the stream, and prevent any from running in the artificial water courses, and spreading over the land. There are times when it will be injurious, even on dry land. In hot days, when the sun is intense, the water should be entirely taken from the land, the night, and cloudy and rainy weather, are the most favourable seasons. Water is not only injurious to stand long on the surface of land, especially in hot weather ; but it is equally injurious at all times, to remain stagnant, under the surface. This can only be prevented by drains, on which subject it is my intention at some future day to make a communication.

Among the best writers on the subject of irrigation, there are various opinions with respect to the most suitable seasons of the year for the purpose.

There is no doubt, but the spring and autumn, when the rains are heavy, are very favourable. One great advantage,

and perhaps the greatest, arises from the rich sediment, which the water carries on the land. From the experiments I have made, I am satisfied there is no mode of cultivating and fertilizing land, with so little expense, and so profitably, as by irrigation.

It is however to be observed, that however valuable water is to land, when properly made use of, there is nothing more injurious to it, frequently, when left to its natural course, or when injudiciously managed. It is necessary to have the entire command of the water made use of for irrigation. The least observation will be sufficient to shew, that large quantities of our best land are rendered useless by water. It is in nature, that all streams seek for the lowest grounds. These grounds are covered by the water, where it remains stagnant, and every kind of vegetation is destroyed. Two important advantages are gained by a proper mode of irrigation; one, the water is carried on the high and dry grounds, with all its enriching qualities. The other, the low grounds are left dry, and in a situation to be cultivated and become abundantly productive.

It will be seen by the plan I have adopted, the first thing is, to erect a dam, in some suitable situation, to raise the water, and form a reservoir, higher than the ground to be irrigated; no regard ought to be paid to straight lines in forming the channels; it is better, they should be winding and circuitous, and it is all-important, their courses should be on the highest ground intended to be irrigated. The out-lets, from the main channel, and small ditches, ought to be numerous, and it is necessary to exercise the best judgment in forming them.

It is in this case as in all others which relate to agriculture, very much will depend on the sound judgment of the person who manages the farm. There is another advantage I have experienced, since I commenced the system of irrigation; heretofore, after mowing my grass, I could not walk over the ground, without a swarm of Grasshoppers, and other insects flying up before me. They have now disappeared, and I

know of no other cause, than that they have been destroyed by the water.

Those fields which were dry, and without hardly a blade of green grass, after the first mowing, are now at that season covered with the richest verdure. Such parts of my mowing grounds, as I have irrigated, without carrying on any manure, excepting what was carried on by the water, have greatly increased, both in the quantity and quality of the hay; and according to my best opinion, there will be no occasion of breaking up the land, as long as the operation of the water is continued. Some parts of the land, which I irrigate, I have manured, and have found myself amply remunerated. The coarsest and rawest manure, retaining all its strength, may be put on these lands, in the fall, early in the spring, or after the first mowing and the water not only prevents it from burning the grass, but decomposes it in such a manner, that it has a greater effect, than when it is old, and some of its virtues have evaporated, as will be the case when exposed to the sun, and the air in its preparation. When history informs us of the great advantages, which the earliest nations of which we have any account derived from fertilizing their lands by water; when it is considered in what high estimation, it is held in every part of Europe, and indeed in other parts of the world; and from the few experiments which have been made in this country, what vast advantages might be derived from it, is it not matter of surprize, that more attention has not been paid to it here, and that it has hitherto remained without any patronage? In Switzerland, the first agricultural society grants it the first premium. I believe, there is no country on earth, better calculated for improvements, by this means, than ours. Streams almost innumerable pass over it, in their natural courses, and have carried and continue to carry, the richest part of the soil into the ocean. This rich manure, which is now entirely lost, with little expense, and without the aid and labour of dung carts, might by spread over our cultivated fields, and render them

productive, beyond any calculation that the most sanguine can imagine. Yet we stand, uninterested on their banks, gaze at them as they pass, without an effort to regulate their courses in such a manner, as to reap the advantages of the rich treasures, they contain. It is certainly a neglect of a blessing, which a munificent Providence has provided and offered for our acceptance. If the account I have here given, and the observations I have made, can be of any use, I shall be happy. In any event, I am satisfied, the experiment, I have made, has been attended with great advantages to the farm I cultivate. In four years, my crop of hay has increased more than ten fold, and this has been effected principally by irrigation. I am with highest respect, your most obedient servant.

WILLIAM HULL.

ON THE MOST SUITABLE SEASON OF THE YEAR FOR THE CUTTING OF TIMBER, WITH REFERENCE TO ITS DURABILITY.

It would seem surprizing, that a question so easily decided by a few experiments, should in this age be still a subject of dispute. Yet so it is, and although a careful collection of facts, one would suppose, would readily settle the dispute, (for upon such a subject above all others, *facts* alone must be resorted to in preference to *theory*,) yet it is true, that in this age, in which science has attained to a higher degree of certainty and perfection than in any former one, this most interesting question remains the subject of conflicting and opposite opinions both in Europe and America. The vast importance of it connected as it is with the durability of our houses, and utensils of wood, and the still if possible more important question of the durability of our ships, one would have hoped would have led philosophers to ascertain by unquestionable experiments the true principles, and to put the question at rest.

Commodore Porter has published a very elaborate essay on this subject, and Col. Pickering has with great ingenuity and characteristic frankness, replied to the Commodore, and collected a great mass of facts on the subject, which appear to us not only to impugn the opinions advanced by Commodore Porter, but to settle the question in the minds of every man, who is acquainted with the habitual caution and exactitude of Col. Pickering in relation to questions of this sort.

It had been our intention to introduce both Commodore Porter's and Colonel Pickering's views of this subject in the present number of our Journal, but the space necessarily occupied by the official accounts of the proceedings of this society, would not permit us to accomplish what we had proposed.

It may be thought by some persons, that we had better curtail our accounts of our shows and of our premiums, and give place to original communications on such interesting topics.

It should however be recollected, that, *after all*, the interests of agriculture and of our country are best promoted by diffusing through the whole mass of the people a taste and zeal for the promotion of agriculture generally, rather than to confine their attention to the speculative examination of any one point however interesting it may be. The question above referred to, though highly important, seems rather to be more calculated for a philosophical or scientific journal, than for one purely agricultural. It seems to us to be of greater importance to show, that while Dr. Deane, thirty years since, spoke of 100 bushels of potatoes as the average crop, on indifferent soils and under ordinary culture, and mentioned 300 and even 400 bushels on an acre with an air of surprize as the product of the best Irish culture of that plant, we are enabled to prove, that not one only, but many of our farmers are able by the recent spirit infused into the agricultural classes of society, to produce from 400 to 500 bushels of that root per acre—and that this has been done not by amateur cultivators of fortune, regardless of the cost, but that the natural

and common tillers of the soil have out-stripped those who regarded not expense in the attainment of their ends. The same remarks apply with still greater force to the other articles of root culture, and it is now seen that the Essex and Worcester farmers take the lead in the culture of the carrot, the Mangel Wurtzel and the Ruta Baga.

No man can doubt that considered in relation to *agriculture only*, these proofs of success in that art should have the preference, to the disputed, though highly important question as to the best time of cutting timber. But though we contend for this opinion, we are by no means of the sentiment that the other should be neglected, and therefore while we regret that the limits of this number will not permit us to give at large as we intend to do, the arguments of Commodore Porter and Colonel Pickering on the best time of cutting timber with reference to its durability, yet we with pleasure devote the small space left to us to the following interesting letter from Mr. Poor, on the same subject, and fully supporting the hypothesis, and corresponding with the facts advanced by Colonel Pickering.

Newburyport, July 31, 1821.

GORHAM PARSONS, ESQ.

DEAR SIR,

I HEARD you observe the other day, that every kind of information which would in any measure serve to advance the agricultural interest of the country, should be made public, and every friend to agriculture, should do all in his power to have it generally diffused. It has since occured to me, that the following facts may be of some service. If you are of that opinion, you are at liberty to communicate them in that manner you may think proper.

The following are the facts alluded to, and are within my

own knowledge and observation, viz:—In the fall of 1812, my grandfather (then ninety-one years old) in conversation with a respectable mechanic on the subject of the durability of timber, urged with much earnestness, the great importance of cutting or felling the trees in the old of the moon in the month of March, the mechanic with as much earnestness, but with great respect to the old gentleman, insisted that the month of June was the best month, that timber cut at that time and well seasoned, was worth double that in March; it was to be sure much harder to work, but would endure longer and for any use on a farm, particularly ploughs, carts, harrows, drags, &c. it was incomparably better, and he further observed that he was once of grandfather's opinion, not from his having made any actual experiment, but from having been told from his youth, that March was the proper month for felling timber trees, that from accident he at first had an opportunity of testing the difference, and on further attention to the subject, he was fully confirmed in his opinion. My grandfather still adhered to his opinion, but was desirous of making an experiment by selecting two white oak trees, size, situation, general appearance as to age and health, and the soil, as near alike as possible, that was done at the time (the fall of 1812.) In the month of March following, in the old of the moon one tree was cut, the timber carried to the mill and sawn into suitable timber and scantling for an ox cart, and put up to season in the open air, the middle of June, the other tree was cut, carried to mill, and sawed into timber, &c. suitable for an ox waggon, and put up in the open air to season, and treated in every respect as that cut in March. In the fall of the year, both parcels of timber were housed, and in the spring following, an ox cart was made from one, and an ox waggon from the other parcel, both painted and the work alike in all respects. They were used principally for hauling stone, and if there was any difference in the service to which they were used, it was that the June timber had the hardest, they were both housed in winter, and commonly

remained out in summer. At this time the one made of timber cut in March, is very much decayed, the raves defective, much bruised, and a general appearance of decay and of being much the worse for wear, while that made of timber cut in June, is perfectly sound, and has not given way or started in the joints, or in any respect appears half as much worn as the other, although as before observed it has been put to harder service, and it is a fact that in this instance the June timber is very much harder, and is not so much bruised as that cut in March. I send you a piece of plank from each parcel, and you will at once perceive that a striking difference is in favour of that cut in June; the mechanic who induced this experiment, says timber cut in June, must be sawn soon after 'tis cut, and near the size in which it is to be used, for it is much more difficult to work than timber cut in March, but it will not powder-post or crack in the sun; he is also of opinion that it would be far more durable as ship timber, but this experiment goes only to prove its superiority for farm use, and I am fully satisfied that it will be for the interest of farmers to use for their carts, waggons, &c. timber cut in June, in preference to that cut at an earlier period. I should like to know, why June is the best time, and how it happens, that even accident should not have done away the long established opinion, that timber to endure and be serviceable, must be cut in March. Should the preceding facts be acceptable my object is obtained,

And I remain your obedient servant.

BENJAMIN POOR.

[To the Trustees of the Massachusetts Agricultural Society.]

GENTLEMEN,

HAVING viewed with pleasure, the laudable exertions of your Society for the improvement of agriculture and manufactures, I entertain a disposition to contribute my mite,

to the promotion of this benevolent and useful design. What I design at present is, an essay upon the culture of the Silkworm, and an exhibition of its effects for several years, in my family.

I was induced to undertake the cultivation of Silk, from the well known utility of this article, in a great part of our clothing, and almost all the ornamental parts of dress.

About five years ago, I began the cultivation of the Silkworm, having previously prepared a good supply of white Mulberry trees, the leaves of which are the only support to this animal, with any kind of profit.

It is true that the life of the Silkworm may be preserved for a few days by some other vegetables than the Mulberry, as lettuce, and leaves of the low brian berry, but nothing else than white Mulberry will produce silk to advantage, even the black Mulberry not excepted.

The average quantity of sewing silk and twist, annually manufactured at my house, is about one thousand skeins, sometimes more, and often less; and the quantity might be increased almost to any amount if consistent with other pursuits. It might be profitable economy to large families who expect to labour for their support, and whose landed property is small; for I have no doubt that one acre of land well covered with Mulberry trees, would support Silkworms sufficient to produce six or seven hundred dollars worth of sewing silk annually. And the Mulberry will flourish well upon any land that is suitable for the apple tree; and I believe as well in this as any other country.

The proper time for hatching the Silkworm, is about the 10th of June in common seasons, and it continues to feed upon the Mulberry leaves about five weeks. Then it withdraws and winds itself within a very beautiful ball, where it continues about nine or ten days in a dormant condition. Then, if it be not destroyed for the sake of its silk, it eats through the ball, and appears in the form of a large white miller. This is the state of perfection to the Silkworm. In this, it propa-

gates its species, prepares for a numerous posterity, and then it languishes and dies.

I have sent you a specimen of our silk and twist, together with a pair of gloves for your inspection, and hope it will meet your approbation. The manufacture of silk in this country, may be greatly to the advantage of it, by affording employment to children and other cheap hands, and thereby prevent the exportation of its specie. Therefore, would it not be advisable to give encouragement to this kind of domestic manufacture ?

The pursuits of agriculture and manufactures are evidently progressing, through the aid of your society, and others of the same description ; and there is no doubt, your satisfaction will be in proportion with your endeavours to promote the prosperity of your country.

And I would just observe, that the whole of our silk has always been manufactured at my house in every operation, and the colouring thereof. The natural colour of silk is white.

From your friend,
And humble servant,
REUBEN HOLCOMB.

Sterling, County of Worcester, October 4th, 1821.

[The following letter from the Hon. John Welles to the Corresponding Secretary, on Forest Trees, relates to a subject of the greatest importance to the State of Massachusetts, a State destined to become very populous by its industry, its capital, and its superior advantages of all descriptions for extensive manufactures. The best mode of preserving our wood-lots from decay, can be ascertained only by extensive and frequently repeated experiments. No man in New England has enjoyed greater opportunities than Mr. Welles, of making and witnessing such experiments.]

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It is now my intention to resume the subject, for the purpose of leading to a more general enquiry as to the laws which govern and regulate vegetable life, as well in that majestic production of nature, the Forest Tree, as in the fruit-bearing tribes.

How then amongst us is vegetable life affected by climate? How, by other causes? and what is the duration of the several kinds of Trees?

That these questions may be rightly answered, known facts are to be collected from the observing; and such results must be obtained as may lead to the most accurate decision of which the subject is susceptible. Thus, whilst in this great process of nature, general knowledge is enlarged, it becomes the immediate source of practical utility. Or in other words, experience, gathering strength as time passes by, becomes our unerring guide. Much has already been done by the publication of extracts from Michaux, relating to the varieties in the American forest. But if with a like zeal we can obtain from others of the present time, whose information is competent, known facts as to the age of trees; there is no doubt sufficient knowledge might be had, to establish a general system accurate enough for every wished for purpose.

And why should not the laws which influence vegetables, be as definite as those which govern animal life? What one generation cannot do, let two effect. And as to exceptions, let it be remembered, that they do not disprove but establish general laws.

A time will come (especially if coal is not found more abundantly with us) when from the increase of our population and our manufactures, the cutting off and the re-growth of our forests, or to use a more appropriate term, our woodlots, will form an important subject of calculation. It will be desirable to estimate with precision, at what period the earth will again present a renewed growth; as well as the most beneficial time and mode of using the axe. Some in-

near where it is proposed to erect buildings. The fact is, that trees of original growth have their roots mostly in the upper stratum of earth and near the surface. A tree acts upon its roots, and is acted upon by the wind, sustaining in common with the whole forest the force of this element, and it becomes accommodated or naturalized to the pressure. But when left alone or unsustained, it is borne down by the first gale, often to the injury of property, and even of life. It is true wisdom therefore, that induces the settler to cut or girdle the whole growth, that a danger so serious may be avoided.

Considering the oak as the monarch of the wood, we begin where this tree predominates. From a careful examination of several lots of considerable extent, which have been cut clean, and where there could be little doubt that the growth was, as it were, primeval; not more than seventy rings could be discovered. As the outer rings were not very distinct, it may be fairly inferred, that many years might have passed by without this indication of increase. The result seems sufficient, more especially if it shall be confirmed by coincident facts, to establish the preceding hypothesis; that it is generally most beneficial to cut off our wood lots at some period between forty and fifty years; varying the rule somewhat as circumstances may dictate.

Where lots are left for a much longer period, or where the old trees are gradually selected as wanted by the proprietor, the growth becomes more and more feeble.

The English writers generally lay down a different result from what appears to be the fact in this country as to the growth of wood.

First they assert, that after a period of about fifty years the forest trees will not shoot anew after being cut over. This is so far from being the case here, that it is believed that scarce an instance has occurred, where lots are fenced and cattle are kept out, but that a new growth has rewarded the owner of the soil. In several lots of old growth upon Blue

Hill in Milton, it was predicted that there would not be a new growth. The wood was cut off in about 1800, and there is now a fine vigorous succession of the same sort of trees.

Old lots, when the wood is taken therefrom, are too often left exposed as pastures or in commons; the roots are surcharged with sap; the shoots, when they rise up, are of rapid growth, tender, and nutritive; they are cropped by cattle and sheep, and the erroneous conclusion above stated is too hastily drawn, in this country at least. The next point, upon which we must dissent, is this. That 'the trimming of wood lots is beneficial.' True it is, that some of our farmers think that the stumps of their trees may be deprived of a portion of their numerous suckers for a few years. They are used to serve as hoop poles. Perhaps from the necessity of the case, and the situation of the country, this may be justified. But experience here seems fully to establish it, that wood lots should not be trimmed in the manner recommended by the English writers, for the purpose of letting in the air and light. In a variety of instances where this has been done, the consequence has been that the leaves have been blown away, which would have made the land lie light and nourish the roots. A thick grass sward has been formed, and the lots have been stunted in growth, and most essentially injured.

There is no doubt that in the family of the oaks there is a great difference in growth and duration. The red oak, (Quercus Rubra); the grey oak (Quercus Ambigua); the swamp white oak (Quercus Prinus Discolor); in forests attain their growth sooner than the white oak (Quercus Alba). The latter tree spreads its limbs parallel nearly with the earth by engrossing a greater extent of soil; it has the benefit of better nutrition. As it seldom predominates in the forest in close growth, it does not perhaps mature much under from 60 to 80 years, and when in single and favourable situations, it requires a much longer period. The Chesnut of the United States, (Castanea Vesca) is a long lived tree, but less so

gates its species, prepares for a numerous posterity, and then it languishes and dies.

I have sent you a specimen of our silk and twist, together with a pair of gloves for your inspection, and hope it will meet your approbation. The manufacture of silk in this country, may be greatly to the advantage of it, by affording employment to children and other cheap hands, and thereby prevent the exportation of its specie. Therefore, would it not be advisable to give encouragement to this kind of domestic manufacture ?

The pursuits of agriculture and manufactures are evidently progressing, through the aid of your society, and others of the same description ; and there is no doubt, your satisfaction will be in proportion with your endeavours to promote the prosperity of your country.

And I would just observe, that the whole of our silk has always been manufactured at my house in every operation, and the colouring thereof. The natural colour of silk is white.

From your friend,
And humble servant,
REUBEN HOLCOMB.

Sterling, County of Worcester, October 4th, 1821.

[The following letter from the Hon. John Welles to the Corresponding Secretary, on Forest Trees, relates to a subject of the greatest importance to the State of Massachusetts, a State destined to become very populous by its industry, its capital, and its superior advantages of all descriptions for extensive manufactures. The best mode of preserving our wood-lots from decay, can be ascertained only by extensive and frequently repeated experiments. No man in New England has enjoyed greater opportunities than Mr. Welles, of making and witnessing such experiments.]

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deed may be so favoured with length of days as to avail themselves of this labour of the earth more than once. But if not, to their successors and to the community, the subject is highly important and replete with interest. The diversity of opinion on these topics, and the occasional and scattered instances of the great longevity of trees, while they render the subject more intricate, make it also more essential as a topic of enquiry. These variations from the general law in this country, as well as other similar ones in past ages and in the present times, should form no impediment to the *general rule*.

As relates to our forests or wood land, it is a fact generally known, that where they are cut off and a renewed growth is wished for, if they are of hard wood, they should be cut when the sap is down, or the leaf off the tree. This being mostly in the winter season, is most convenient to our husbandmen. It is considered as very essential by European writers as well as some of our own country, that trees should be cut as near the ground as possible, as a means of throwing back the suckers more toward the roots. This practice is dictated also by economy as a saving of the best part of the wood and timber. In the publications of the Scotch Agricultural Board, by Sir John Sinclair, it is observed, 'that of the trees which being cut down send forth no shoots, are the beech and the whole family of the pines.' They are considered in Europe 'as limited to one generation.' There is a mode here, however, as to the latter tree which has the effect of producing a succession. After cutting off a pine lot, the plough is introduced, a crop of rye is obtained beneficially, and the seeds of the pine which were on the surface being thus buried in the soil, a new and rapid growth is produced. This is aided if one or two middle sized seed-bearing trees are left on an acre. It is said that in some parts of our country there is a change or a succession of different growths, even of different genera or families. Upon this seeming incongruity I cannot reason, from want of experience.

As to the important principle, at what age or how often it is best to cut off our wood, we should on the whole be disposed to name a period between 40 and 50 years, as most favourable for what is termed hard-wood trees. The writer here refers not only to a variety of facts as to lots in different parts of this state, but to opinions of many judicious farmers. This is corroborated by a number of experiments, where portions of a lot have been cut off at the period of time above stated, and the product of which considerably exceeded that of other parts of the same lots, which had been left standing, in the aggregate quantity upon an acre. This was the more discernable where the ground had been cut clean; a practice which cannot be too highly recommended.

By the agricultural reports before alluded to, it appears that in the lots reserved for wood (called coppices) it is considered as most profitable to cut off the growth every 40 years. It will be perceived that for this country a longer period is inclined to.

As to the pine, that called the pitch pine, (*Pinus Rigida*,) is the prevailing growth in this State. The general opinion is that it may be cut to advantage once in about 40 years.

Though trees may shoot up in heighth by standing longer, yet the period of most rapid vegetation is mostly over, and by this means much of the under growth is necessarily destroyed.

It may be here remarked, that those trees which took their start in the earlier stages of vegetation on our soil, and have grown separate, have put at a distance all competition. Having the advantage of extent of ground, air, light, &c. besides being more valuable as timber, they have attained greater age and size than has been since known.

One observation will tend to the vindication of our country from that censure, which has been bestowed upon us by some superficial travellers. We have been condemned as evincing a want of taste in cutting off our forests without leaving what it would take a half century to produce, a shade

near where it is proposed to erect buildings. The fact is, that trees of original growth have their roots mostly in the upper stratum of earth and near the surface. A tree acts upon its roots, and is acted upon by the wind, sustaining in common with the whole forest the force of this element, and it becomes accommodated or naturalized to the pressure. But when left alone or unsustained, it is borne down by the first gale, often to the injury of property, and even of life. It is true wisdom therefore, that induces the settler to cut or girdle the whole growth, that a danger so serious may be avoided.

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than the white oak; it grows to a large size and is valuable for timber. In Scotland, they conjecture some of their Chesnut trees to be nearly 300 years old. As has been before observed, the white oak and the elm, in common with all other trees when well situated in cultivated grounds, and near roads and houses, attain great and protracted age, and must be considered as forming (if not exceptions) classes of cases by themselves, not interfering with that system under which we place our forests and wood lots. I feel that I owe an apology to you sir, as well as your readers for the length of this communication. My object has been to excite an attention, which is becoming more and more important as to our wood lots, and I feel desirous of bringing those forward who are better informed. As it may furnish, however, some amusement to the curious, and lead to the general benefit and ornament of the country to adorn our highways and pleasure grounds with trees in rows and otherwise, I shall subjoin a *variety of instances of the size, age, &c. of several in this neighbourhood and elsewhere, which will serve to show what an astonishing increase time insensibly effects in this wonderful product of the earth.

I am Sir, respectfully yours, &c.

JOHN WELLES.

Dorchester, October 31, 1821.

AGRICULTURAL INTELLIGENCE.

The following letter from a very intelligent and highly respectable cultivator of Maryland, expresses a sentiment, which we have often endeavoured to impress in our Journal; to wit, the great importance of having a common language in agriculture as well as in every thing else. There is nothing so unsettled as the familiar names of grasses and

* This Appendix was necessarily omitted, but will appear in our next number.

fruit trees, and indeed of the varieties of the potatoe, and many other cultivated articles.

We do not agree with Mr. Forman, that in Europe there is more of this confusion of names. So far from it, the men of education all understand each other when speaking of grasses or fruit trees. The only perfect mode of ascertaining precisely, whether we do agree in our application of names, is the one which Mr. Forman has wisely adopted, that of sending, reciprocally, specimens of the plants, together with the name, or names, if more than one, by which they are known in our vicinity. We have no hesitation in saying that one of the plants sent on by Mr. Forman was the phleum pratense of botanists, known also by the names of meadow catstail, according to Nicholson's Farmers Assistant, Timothy Grass, Herds Grass, Foxtail. With us it is called Herds Grass, in England Timothy, in the middle states Timothy. Col. Pickering was perfectly correct therefore in giving ing the synonyme of Timothy to the Phleum pratense.

The other specimen which we saw was the Poa Pratensis of botanists, so known from Sweden to Spain, and from Maine to Carolina. Its most usual vulgar name *here* is 'Red top; a natural allusion to the colour of its heads before flowering. We have heard it called also Rhode Island grass. Mr. Forman's communication first informed us, that it ever had obtained the name of *Herds grass*, to which it has not the most distant resemblance. We would observe, that the application of these names in New-England, to those two grasses, is of very ancient date, having been published with us more than half a century since, and so far as we know they have been uniformly so applied ever since.

Another of the grasses sent by Mr. Forman was the Avena Elatior, 'tall meadow oat grass,' 'tall oat grass,' in Farmer's Assistant, 'oat grass,' 'wild oat,' and Nicholson says sometimes called 'orchard grass,' which it very little resembles, and which is as well known in both Great Britain and

America, (though not much cultivated in either,) as any grass whatever.

The fourth grass sent by Mr. Forman is the Dactylis Glomerata of botanists, properly 'orchard grass' of England and America, or 'Cocks foot,' as some have it. We think it would be more convenient to unite in calling it 'orchard grass,' as its English title. Sir Humphrey Davy's Agricultural Chemistry, and Mr. Muhlenberg, will enable us to understand one another when we speak of Dactylis Glomerata; but 'Orchard grass,' would be more convenient as a common name. It probably derived this familiar name from its being fond of the shade of trees, often found in orchards and thriving better in such situations, *not than it does elsewhere*, but better than almost any other grass would. We have ourselves some hundred tufts of this grass which thrive and flower annually under the Tilia Europæa, a European lime tree, which has the densest foliage of any tree we have, and which have flourished there for thirty years past, while no other plant except the mosses has been able to sustain itself under such disadvantages.

Rose Hill, August 3, 1821.

[To John Prince, Esq. one of the Trustees the Massachusetts Agricultural Society.]

SIR,

In this package you will find some varieties of our cultivated meadow grass. I am influenced by the strange confusion respecting their names, and my attention has been more closely drawn to the subject by the remarks of Mr. Pickering, who confounds the herds and timothy.

In Europe, the boasting Europe, we are not surprized to learn that in adjoining towns and counties, the most common vegetables are recognized by different names, but in

this country, we have not, and I devoutly pray we never may have any thing like provincialism, in language or habits.

The seeds and specimens are perfect, being all gathered by myself, and I beg of you that you will exercise your industry to give to the public through the medium of your valuable repository, not only a botanical description, but the true *vulgar* names of these grasses. I am,

Your obedient servant,

T. M. FORMAN.

William Little Esq. of Boston, presented to the Trustees of this Society a quantity of wheat sent out for this purpose by the American consul at Leghorn, being the sort of wheat, the straw of which is used in making the Leghorn bonnets. This wheat was last spring distributed throughout the State with the request that those who should try it would state to us their success.

Of all the persons to whom it was sent, only two have given any reply; and these accounts are so flattering as to give us strong reason to believe, that it will succeed better than almost any other species of wheat. Whether the straw will be as fine and as clean as the Italian is yet to be decided.

Dr. James Thaxter of Plymouth appears to have managed it with great skill, and obtained from less than a pint, sixteen quarts and three fourths of large grained wheat; being more than thirty-three for one. The upper joint of the straw is much larger, the Doctor remarks. Robert L. M'Lellan Esq. of Colrain, has also made a return of his experiment, he sowed only three gills, and its produce was at the rate of thirty bushels to the acre. He remarks that the straw was stronger than that of common wheat, and as he thinks twice as strong.

We cordially recommend to the notice of intelligent cultivators 'the American Farmer,' edited by John S. Skinner,

L. of C.

Esq. at Baltimore. It is conducted with great industry, skill, judgment and impartiality; and from the central situation of the Editor, possesses great advantages, as to information, which few or no other periodical works, could enjoy.

If we have hitherto abstained from what we consider a notice justly *due* to this work, it has arisen from a principle which we have always prescribed to ourselves, to wait till experience should convince us that a publication was truly worthy of the patronage of our subscribers and members, before we should venture to recommend it.

We are happy to hear that Messrs. Wells & Lilly are about to publish a new edition of Dr. Deane's New-England Farmer, with important corrections and additions, to adapt it to the present state of agricultural knowledge. No work on this subject with which we are acquainted, has been arranged in a more convenient form as a manual for farmers. Dr. Deane's Dictionary was truly respectable for the period in which it appeared, and has always been deservedly popular in New-England. We have no doubt from the measures taken by Messrs. Wells & Lilly, that it will issue in a very improved state, and prove highly useful at this time, when the attention of our farmers is so earnestly drawn to this subject.

CATTLE SHOW, EXHIBITION OF MANUFACTURES, &c. &c.

The Trustees of the Massachusetts Society for the Promotion of Agriculture, encouraged by the patronage of the Legislature of this State, intend to offer in Premiums, not only the sum granted by the Government for that purpose, but also the whole amount of the income of their own funds. They, therefore, announce to the public, their wish to have

a Cattle Show, and Exhibition of Manufactures, &c. &c. at *Brighton*, on *Wednesday* and *Thursday*, *the* 9*th and* 10*th of October*, 1822, to begin at 9 o'clock of each day, and they offer the following Premiums:—

FOR STOCK.

For the best Bull, raised in Massachusetts, above one year old, - - - - - $30
For the next best do. do. - - - - 20
For the best Bull Calf, from five to twelve months old, - - - - - - 15
For the next best do. do. - - - - 8
For the best Cow, not less than three years old, - 30
For the next best do. do. - - - - 20
For the next best do. do. - - - - 15
For the best Heifer, from one to three years old, with or without calf, - - - 15
For the next best do. do. - - - - 10
For the best Ox, fitted for slaughter, regard to be had to the mode and expense of fatting, - - 40
For the next best do. do. - - - - 30
For the next best do. do. - - - - 20
For the best pair of Working Cattle, - - 30
For the next best do. do. - - - - 25
For the next best do. do. - - - 20
For the next best do. do. - - - 15
For the next best do. do. - - - 10
For the best pair of Spayed Heifers, not less than one year old, - - - - 25
For the best Spayed Sows, not less than four in number, and not less than five months old, - - 20

The claimant to be entitled to either of these two last premiums, must state the mode of operation and treatment, in a manner satisfactory to the Trustees.

For the best Merino Wethers, not less than six in number, having respect to form and fleece, - $20

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For the next best do. do. do. - - - 10
For the best native Wethers, not less than six in number, do. - - - - - 10
For the next best do. do. do. - - - 5
For the best Merino Ram, do. - - - 15
For the next best do. - - - - 10
For the best Merino Ewes, not less than five in number, do. - - - - - 20
For the next best do. do. do. - - - 10
For the best Boar, not exceeding two years old, do. 10
For the next best do. do. do. - - - 5
For the best Sow, - - - - - 10
For the next best do. - - - - 5
For the best Pigs, not less than two in number, nor less than four months old, nor more than eight, - 10
For the next best do. do. - - - 5

None of the above animals will be entitled to premiums, unless they are *wholly bred* in the State of Massachusetts.

For the best Ram which shall be imported into this state, after this advertisement, and before the 15th day of October next, of the improved Leicester breed of long woolled sheep, or of the best Dishley breed, or of the fine, and long woolled sheep of the Netherlands the length and fineness of whose wool shall be found superior to those of our present breeds, $50, or a gold medal of that value, at the option of the importer.
For the next best do. do. - - - - 40
For the best Ewe, of any of the said breeds imported under the same terms, and of the like superior qualities, - - - - - - 40
For the next best do. do. - - - - 30

No animal, for which to any owner one premium shall have been awarded, shall be considered a subject for any future premium of the Society, except it be for an entirely distinct premium or for qualities different from those for which the former premium was awarded.

Any of the above Stock, when raised and still owned at the time of the exhibition, by the person who raised them,

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will entitle the claimant to an allowance of ten per cent. in addition. But Sheep, to be entitled to any of the above premiums, must be raised by the person entering them.

FOR AGRICULTURAL EXPERIMENTS.

To the person who shall raise the greatest quantity of Indian Corn on an acre, not less than seventy bushels - - - - - - $30

To the person who shall make the most satisfactory experiment, to ascertain the best mode of raising Indian Corn, in hills, in rows, or in ridges; not less than half an acre being employed in each mode, in the same field, the quantity and quality both of land and manure to be equal and uniform in each mode; all to receive a cultivation requisite to produce a good crop, - - - - 30

To the person who shall raise the greatest quantity of Carrots on an acre, not less than six hundred bushels, - - - - - - - - 20

To the person who shall raise the greatest quantity of Potatoes on an acre, not less than five hundred bushels, - - - - - - - 20

To the person who shall raise the greatest quantity of Parsnips on an acre, not less than four hundred bushels, - - - - - - - 20

To the person who shall raise the greatest quantity of common beets on an acre, not less than six hundred bushels, - - - - - - 20

To the person who shall raise the greatest quantity of Mangel Wurtzel on an acre, not less than six hundred bushels, - - - - - 20

To the person who shall raise the greatest quantity of Ruta Baga on an acre, not less than six hundred bushels, - - - - - - 20

To the person who shall raise the greatest quantity of common Turnips on an acre, not less than six hundred bushels, - - - - - - 20

To the person who shall raise the greatest quantity

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of common Turnips after any other crop in the same season, being not less than four hundred and fifty bushels, - - - - - 20

To the person who shall raise the greatest quantity of Onions on an acre, not less than six hundred bushels, - - - - - - 20

To the person who shall raise the greatest quantity of Cabbages on an acre, not less than twenty-five tons weight, - - - - - 20

To the person who shall introduce any Grass, not before cultivated in this State, and prove, by actual experiment, and produce satisfactory evidence of its superiority in any one quality, to any now cultivated, - - - - - - 30

To the person who shall give satisfactory evidence on 'Soiling Cattle,' not less than six in number, and through the whole season, together with a particular account of the food given, and how cultivated, 30

To the person who shall make the experiment of turning in green crops as a manure, on a tract not less than one acre, and prove its utility and cheapness, giving a particular account of the process and its result, - - - - - 30

To the person who shall, by actual experiment, prove the best season and modes of laying down lands to grass, whether spring, summer, or fall seeding be preferable, and with or without grain on different soils, - - - - - 30

To the person who shall raise the greatest quantity of dry Peas, on an acre, not less than thirty bushels, - - - - - - 20

To the person who shall raise the greatest quantity of dry Beans, on an acre, - - - 20

To the person who shall give proof of having produced the largest quantity of dressed Flax raised on an half acre, - - - - 20

To the person who shall take up in the season on

his own farm the greatest quantity of good Honey, and shall at the same time, exhibit superior skill in the management of Bees, - - - 10

For the best Cheese, *not less* than one year old, and not less in quantity than one hundred pounds, - 10

For the next best do. do. - - - - 5

For the best Cheese, *less* than one year old, - 10

For the next best do. do. - - - 5

To the person who shall raise the greatest quantity of Vegetables, grain, peas and beans excepted, for winter consumption of the stock on his own farm, and not for sale, in proportion to the size of the farm and stock kept, having regard to the respective value of said vegetables as food, stating the expense of raising the same, and the best mode of preserving the same through the winter, - - - - - - - 30

To the person who shall raise the greatest quantity of winter Wheat on an acre, - - - 30

To the person who shall raise the greatest quantity of spring Wheat on an acre, - - - 30

To the person who shall prove to the satisfaction of the Trustees, that his mode of rearing, feeding and fattening neat cattle is the best, - - 20

For the best Butter, not less than fifty pounds, - 10

For the second best do. do. - - - 5

For the best Sole Leather, not less than five sides, 10

For the second best do. do. - - - 5

For the best dressed Calve Skins, not less than twelve in number, - - - - - 10

For the second best do. do. - - - 5

For the best five barrels of superfine Flour, manufactured in the State of Massachusetts, from wheat raised in this state, - - - - 25

For the greatest quantity of Butter and Cheese, made between the 15th of May, and the 1st of October,

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from not less than four Cows, the quality of the Butter and Cheese, and the number of Cows to be taken into consideration, and specimens to be exhibited at the Show, of not less than twenty pounds of each, and the mode of feeding if any thing besides pasture was used, - - - - - 20

To the person who shall prove by satisfactory experiments to the satisfaction of the Trustees the utility and comparative value of the cobs of Indian Corn, when used with or without the grain itself, ground or broken, - - - - - - 20

To entitle himself to either of the Premiums, under this head of Agricultural Experiments, the person claiming, must cultivate a tract of at least one acre in one piece, with the plant or production for which he claims a premium (except flax,) and must state, in writing, under oath of the owner, and of one other person, (accompanied by a certificate of the measurement of the land, by some sworn surveyor,) the following particulars:

1. The state and quality of the land, in the spring of 1821.
2. The product and general state of cultivation and quantity of manure, employed on it the year preceding.
3. The quantity of manure used the present year.
4. The quantity of seed used, and of Potatoes the sort.
5. The times and manner of sowing, weeding, and harvesting the crop, and the amount of the product ascertained, by actual measurement, after the whole produce, for which a premium is claimed, and the entire expense of cultivation.

And in relation to all Vegetables, except Potatoes, Onions and common Turnips, the fair average weight of at least twenty bushels must be attested; and if hay scales be in the town, in which raised, not less than three averaged cart loads must be weighed.

The claim under this head, together with evidences of the actual product, must be delivered, free of postage, to Benjamin Guild, Esq. Assistant Recording Secretary of this

Society, on or before the first day of December next. The Trustees not intending to decide upon claims under the head of Agricultural Experiments, until their meeting in December.

FOR INVENTIONS.

To the person who shall use the Drill Plough, or Machine, and apply it most successfully to the cultivation of any small Grains or Seeds, on a scale not less than one acre, - - - - - 20

To the person who shall invent the best Machine, for pulverizing and grinding Plaster to the fineness of twenty-five bushels per ton, and which shall require no more power than a pair of oxen or a horse, to turn out two tons per day, and so portable that it can be removed from one farm to another without inconvenience, - - - 30

To the person who shall produce, at the show, any other Agricultural Implement of his own invention, which shall, in the opinion of the Trustees, deserve a reward, a premium not exceeding 20 dollars, according to the value of the article exhibited, - - - - - - - - - 20

In all cases proofs must be given of the work done by the Machine, before it is exhibited; and of its having been used and approved by some practical farmer.

FOR FOREST TREES.

For the best plantation of White Oak Trees, not less than one acre, nor fewer than one thousand trees per acre, to be raised from the acorn, and which trees shall be in the best thriving state on the first of September, 1823, - - - $100

For the best Plantations of White Ash, and of Larch Trees, each of not less than one acre, nor fewer than one thousand trees per acre to be raised from the seeds, and which trees shall be in the best thriving state on the first of September, 1823, - 50

For the best Live Hedge, made of either the White

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or Cockspur Thorn, planted in 1820, not less than one hundred rods, and which shall be in the best state in 1823, - - - - - - 50

FOR DOMESTIC MANUFACTURES.

To the person or corporation, who shall produce the best specimen of fine Broadcloth, not less than 1 5-8 yards wide, exclusive of the list, 40 yards in quantity, and dyed in the wool, - $30

For the second best do. do. do. - - - 20

For the best superfine Cassimere, not less than 3-4 yards wide, nor less than forty yards in quantity, 15

For the second best do. do. do. - - 10

For the best superfine Sattinet, 3-4 yard wide, not less than fifty yards, - - - - 10

For the second best do. do. do. - - - 6

To the person or corporation, who shall produce the best specimen of Cotton Cloth, manufactured in this State, not less than fifty pieces, - 20

To the person who shall produce the best specimen of any other fabrics of Cotton, manufactured in this State, in public factories, not less than fifty pieces, - - - - - - 20

In private families, not less than five pieces, - 20

FOR HOUSEHOLD MANUFACTURES.

For the best Woollen Cloth, 3-4 wide, not less than twenty yards in quantity, - - - - $12

For the second best do. do. - - - 8

For the best double milled Kersey, 3-4 yard wide, not less than twenty yards in quantity, - - 12

For the second best best do. do. - - - 8

For the best Coating, 3-4 yard wide, and not less than twenty yards in quantity, - - - 8

For the second best do. do. - - - - 6

For the best Flannel, 7-8 yard wide, not less than forty five yards in quantity, - - - - 10

For the second best do. do. - - - - 7

For the best do. 4-4 yard wide Carpeting, not less than thirty yards in quantity, - - - - 15
For the second best do. do. - - - - - 7
For the best 5-8 yard wide Stair Carpeting, not less than thirty yards in quantity, - - - - 10
For the second best do. do. - - - - 7
For the best pair of Blankets, not less than 8-4 wide and 10-4 long, - - - - - - 6
For the second best do. do. - - - - 4
For the best Woollen Knit Hose, not less than twelve pair in number, - - - - - - 5
For the second best do. do. - - - - 3
For the best Worsted Hose, not less than twelve pair in number, - - - - - - 5
For the second best, - - - - - 3
For the best Men's Half Hose, (woollen) not less than twelve pair in number, - - - - - 4
For the second best do. do. - - - - 2
For the best Men's Woollen Gloves, not less than twelve pair in number, - - - - - 5
For the second best do. do. - - - - 3
For the best Linen Diaper, 5-8 yard wide, and not less than thirty yards in quantity, - - - 5
For the second best do. do. do. - - - 3
For the best 4-4 yard Diaper, (for table linen) not less than thirty yards in quantity, - - - 10
For the second best do. do. - - - - 5
For the best specimen of Sewing Silk, raised and spun in this State, of good fast colours, not less than one pound, - - - - - - - 6
For the second best do. do. - - - - 3
For the best Linen Cloth, (for shirting or sheeting) one yard wide, and twenty-five yards long, - 8
For the second best do. do. - - - - 4

All the above Manufactures, except when of Cotton, must be of the growth and manufacture of the State of

Massachusetts. And all Manufactures, when presented, must have a private mark, and any public or known mark must be completely concealed, so as not to be seen, or known by the Committee, nor must the Proprietors be present when they are examined; in default of either of these requisitions, the articles will not be deemed entitled to consideration or premium.

Animals, Manufactures, or Articles, may be offered for premium at Brighton, notwithstanding they may have received a premium from a County Agricultural Society.

It is understood, that whenever, merely from a want of competition, any of the claimants may be considered entitled to the premium, under a literal construction, yet if, in the opinion of the Judges, the object so offered is not deserving of any reward, the Judges shall have a right to reject such claims. Persons to whom premiums shall be awarded, may, at their option, have an article of Plate, with suitable inscriptions, in lieu of money. Premiums will be paid within ten days after they shall be awarded.

That in any case in which a pecuniary premium is offered, the Trustees may, having regard to the circumstances of the competitor, award either one of the Society's gold or silver medals in lieu of the pecuniary premium annexed to the several articles.

That if any competitor for any of the Society's premiums shall be discovered to have used any disingenuous measures, by which the objects of the Society have been defeated, such person shall not only forfeit the premium which may have been awarded to him, but rendered incapable of being ever after a competitor for any of the Society's premiums.

All premiums not demanded within six months after they shall have been awarded, shall be deemed as having been generously given to aid the funds of the Society.

The Trustees of the Massachusetts Society for Promoting Agriculture, hereby give notice, that they intend, on the second day of the Cattle Show, viz: On the 10th day of October next, to give premiums to the Owners and Plough-

men of the three Ploughs, to be drawn by oxen, which shall be adjudged, by a competent committee, to have performed the *best work, with least expense of labour*, not exceeding half an acre to each Plough, and of such depth as the committee shall direct.

First Plough	$20
Ploughman,	10
Driver,	5
Second Plough,	12
Ploughman,	6
Driver,	3
Third Plough,	8
Ploughman	4
Driver,	2

In each case, if there be no Driver, both sums to be awarded to the Ploughman.

The persons intending to contend for these Prizes, must give notice, in writing, to S. W. POMEROY, or GORHAM PARSONS, Esquires, of *Brighton*, on or before the 2d day of October, so that proper arrangements may be made for the purpose. No person will, on any consideration, be admitted without such notice. The competitors will also be considered as agreeing to follow such rules and regulations as may be adopted by the committee, on the subject. The Ploughs to be ready to start at 9 o'clock, A. M.

The result of the last Ploughing Matches at Brighton, and the satisfaction expressed by so many of their agricultural brethren, will induce the Society to continue these premiums annually, in connexion with the Cattle Show; as an efficacious means for exciting emulation and improvement in the use and construction of the *most important instrument* of agriculture.

Persons intending to offer any species of Stock for premiums, are requested to give notice thereof, either by letter, (post paid) stating the article, or to make personal application to MR. JONATHAN WINSHIP, at *Brighton*, on or before the

9th day of October, and requesting him to enter such notice or application; so that tickets may be ready at 9 o'clock on the 10th. No person will be considered as a competitor who shall not have given such notice, or made such application for entry, on or before the time above specified.

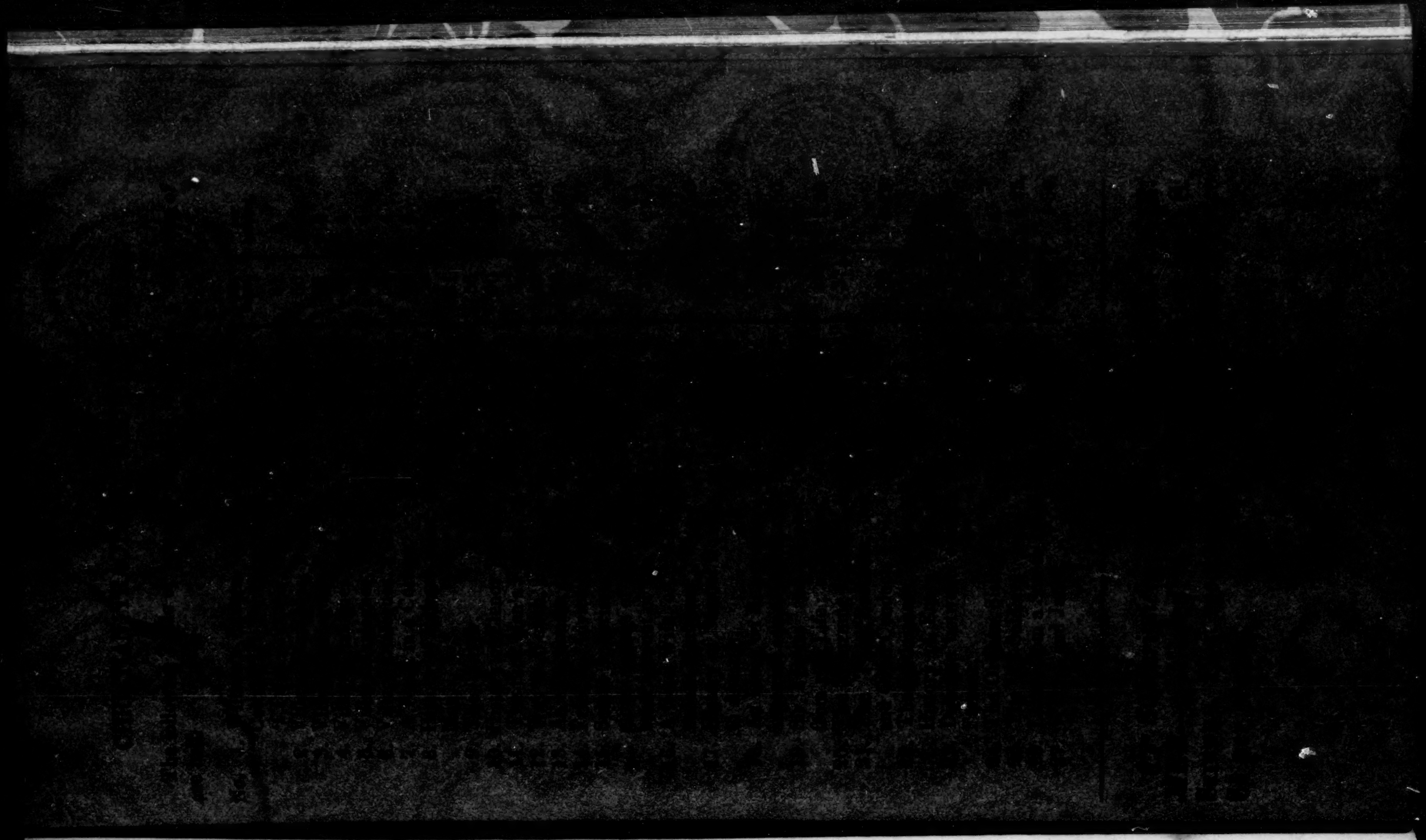
All articles of manufactures must be entered and deposited in the Society's rooms on Monday, the 7th of October, and will be examined by the committee on Tuesday, the 8th, the day before the Cattle Show, and no person but the Trustees, shall be admitted to examine them before the show. The articles so exhibited must he left till after the show, for the satisfaction of the public.

The applicants will be held to a rigid compliance with this rule relative to entries, as well as to the other rules prescribed.

The examination of every species of stock, (except working oxen) will take place on the 9th; and the trial of Working Oxen, examination of Inventions, and Ploughing Match, on the 10th of October.

The Trustees also propose to appropriate, on the second day of the Cattle Show, their Pens for the public sale of any Animals, that have been offered for premium, and also of any others, that are considered by them, as possessing fine qualities; and their Halls for the public sale of Manufactures. Both sales to take place at half past eleven o'clock, precisely. And for all Animals or Manufactures, that are intended to be sold, notice must be given to the Secretary, before ten o'clock of the 10th. Auctioneers will be provided by the Trustees.

By Order of the Trustees,

J. LOWELL,
J. PRINCE,
G. PARSONS,
E. H. DERBY,
} *Committee.*

January, 1822.